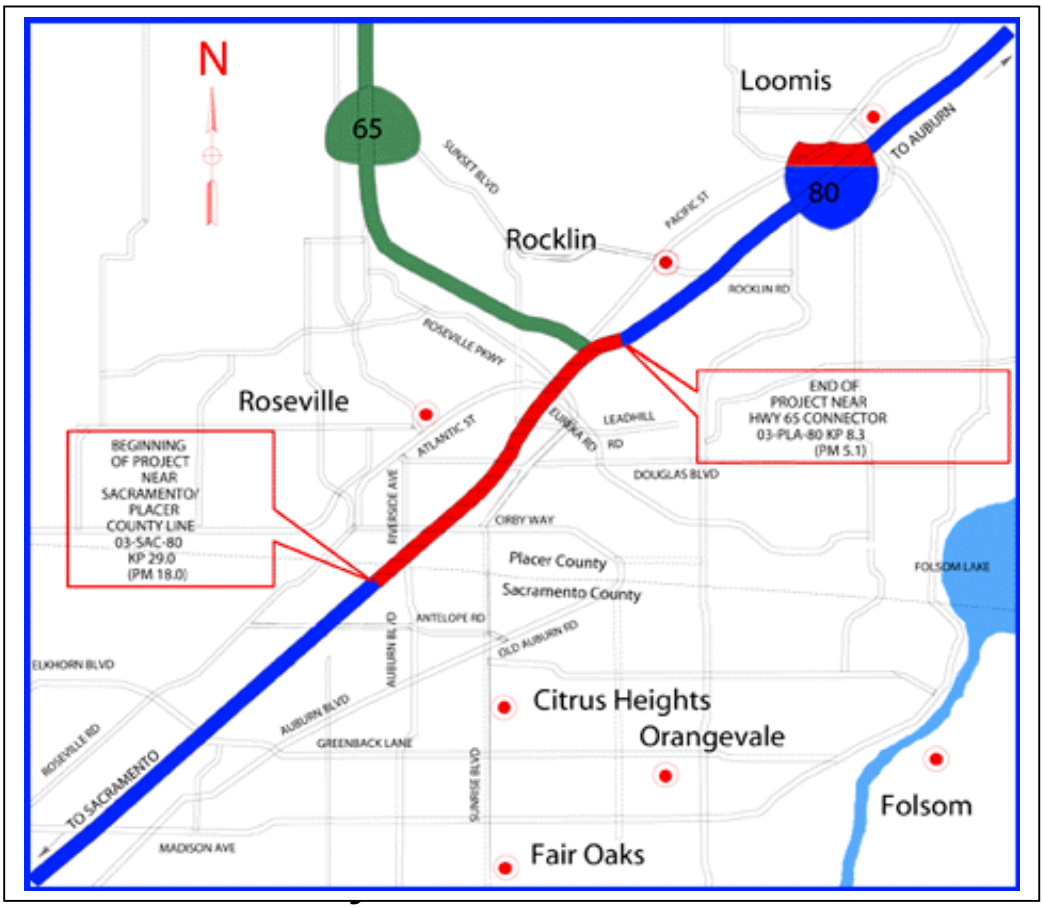
Draft Initial Study

Freeway Improvement Project



On Interstate 80 from 1.1 km west of the Sacramento/Placer County line to 1.56 km east of the Route 65 connector in Placer County

03-SAC-80-KP 27.9/29.0 (PM 17.3/18.0)
03-PLA-80- KP 0.0/8.3 (PM 0.0/5.1)
367800

April 2003

Caltrans

Caltrans Metric

General Information About This Document

What's in this document?

This document is an Initial Study (IS), which examines the potential environmental impacts of alternatives for the proposed project located in Placer/Sacramento Counties, California. The document describes why the project is being proposed, alternative methods for constructing the project, the existing environment that could be affected by the project, and potential impacts from each of the alternatives.

What should you do?

- Please read this Initial Study.
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the Public Information Meeting and/or send your written comments to Caltrans by the deadline. Submit comments via regular mail to Caltrans, Attn: Japtej Gill, Environmental Management, 2389 Gateway Oaks, Suite 100, Sacramento, CA 95833; submit comments via email to Japtej_Gill@dot.ca.gov.
- Submit comments by the deadline: **May 14, 2003**

What happens after this?

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project were given environmental approval and funding were appropriated; Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Japtej Gill, Environmental Management, 2389 Gateway Oaks, Suite 100, Sacramento, CA 95833; (916) 274-0557 Voice, or use the California Relay Service TTY number, (530) 741-4509.

03-SAC-80-KP 27.9/29.0 (PM 17.3/18.0)
03-PLA-80-KP 0.0/8.3 (PM 0.0/5.1)
367800

In and near Sacramento and Placer Counties from 1.1 km west or the Sacramento/Placer County Line to 1.56 km east or the Route 65 Connector in Placer County

DRAFT

INITIAL STUDY

Submitted Pursuant to: (State) Division 13, Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

_____
Date of Approval

_____
John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

State of California
Department of Transportation

SCH Number:
03-SAC-80-KP 27.9/18.0
PM 17.3/18.0
03-PLA-KP 80-0.0/8.3
PM 0.0/5.1

Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to add one lane in each direction on mainline I-80 from 1.1 kilometers (0.7 miles) west of the Sacramento/Placer County line to approximately 1.56 kilometers (0.97 miles) east of the State Route 65 connector in Placer County. The length of the proposed project is 9.3 km (5.8 miles). Three build alternatives are under consideration for improving the roadway system. Alternative 1 proposes to construct an additional mixed-flow lane in each freeway direction along with new or modified auxiliary lanes and Traffic Operation System (TOS) improvements. Alternative 2 incorporates all the physical features of Alternative 1 except that the new additional mainline lanes would be designated as High Occupancy Vehicle (HOV) lanes instead of mixed flow lanes. Alternative 3 proposes new or modified auxiliary lanes and TOS improvements. A no-build alternative is also considered.

Determination

Caltrans has prepared an Initial Study, and determines from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- No Historic or Archaeological Resources will be impacted.
- No low or moderate-income housing will be impacted.
- Impacts to sensitive fish species at Miners Ravine and Linda Creek will be avoided by use of construction work windows.
- Impacts to visual resources will be mitigated by providing aesthetic treatments to proposed soundwalls and retaining walls and by revegetation with native plants.
- Impacts to water quality will be minimized by incorporating Best Management Practices (BMP's) during construction.
- Noise impacts at residential communities will be mitigated by providing soundwalls, when reasonable and feasible.

- There will be no impacts to regional and local air quality. Construction related air quality impacts will be minimized by incorporating "Air Pollution Control" and "Dust Control" provisions in the design specifications.
- Contract special provisions will handle any lead-contaminated soil during construction.
- Oak trees removed will be replaced at a mitigation ratio required under the provisions of California Department of Fish and Game.

_____ _____

John D. Webb, Chief Date
North Region Environmental Services
California Department of Transportation

Summary

The Interstate I-80 Freeway Improvement Project proposes to add one lane in each direction on mainline I-80 from 1.1 kilometers (0.7 miles) west of the Sacramento/Placer County line to approximately 1.56 kilometers (0.97 miles) east of the State Route 65 connector in Placer County. The total length of the proposed project is 9.3 km (5.8 miles). Aside from the no-build alternative, three build alternatives are under consideration for improving the roadway system. Alternative 1 proposes to construct an additional mixed-flow lane in each freeway direction along with new or modified auxiliary lanes and Traffic Operation System (TOS) improvements. Alternative 2 incorporates all the physical features of Alternative 1 except that the new additional mainline lanes would be designated as High Occupancy Vehicle (HOV) lanes instead of mixed flow lanes. Alternative 3 proposes new or modified auxiliary lanes and TOS improvements. Freeway and interchange operational efficiency would be improved with TOS implemented at various proposed locations. All of these three build alternatives are consistent with the SACOG I-80 Corridor Study Investment Strategy Report. The addition of auxiliary lanes for the three build alternatives is one of the components of the short-term strategy while the addition of the HOV lanes for Alternative 2 is a component of the long-term strategy for the I-80 corridor (see Figure i). The project will relieve current recurring peak period congestion and a more prolonged predicted future congestion. The estimated cost of construction for the alternatives ranges from approximately $10 million to $85 million dollars including right-of-way costs (see Figure ii). When approved, this project will be proposed for programming by the California Transportation Commission for final design and construction in the State Transportation Improvement Program (STIP). Due to potential funding constraints, this project may be phased by staging construction.

There are no areas of controversy or any unresolved issues with other public agencies.

On March 25, 2003, a Categorical Exclusion under NEPA was issued by the Federal Highway Administration and Caltrans.

Permits Required

California Department of Fish and Game – 1601 Streambed Alteration Agreement

Central Valley Regional Water Quality Control Board:
- National Pollution Discharge Elimination System (NPDES)
- 401 Water Quality Certificate

U.S. Army Corps of Engineers: Section 404 (Nationwide)

Figure i – Summary of Proposed Major Improvements

Improvement	Location/Description	Alternative		
		1	2	3
Mainline Lane Additions	Addition of one mainline lane on I-80 in each travel direction between Sac-80 K.P. 28.2 (PM 17.5) and Pla-80 KP 8.3 (PM 5.1). Or from approximately the Sacramento/Placer County line to east of the State Route 65 connector.	√	√	
Auxiliary lane addition or extension	Extension of outside lane on eastbound I-80 from Riverside Ave./Auburn Blvd. To exit at Douglas Blvd.	√	√	√
Retaining Walls	Approximately 3.7 km (2.3 miles) of roadway retaining walls for Alternative 1 and 2. Approximately 0.3 km (0.2 miles) of retaining walls for Alternative 3.	√	√	√
Widening of I-80 bridge structures	1. Linda Creek bridge (widen structure up to 4.6 m for eastbound) (Bridge #190027)	√	√	√
	2. Miner's Ravine (widen up to 4.6 m for eastbound and westbound) (Bridge #190056)	√	√	
Widening and abutment fill improvements under overcrossing structures	1. Install slope paving for both abutment fills at the Cirby Way Overcrossing (Bridge #19134)	√	√	√
	2. Regrade abutment slope on the eastbound side of abutment fill under Douglas Blvd. (Bridge #190079)	√	√	
	3. Widening of roadway into abutment fills using tieback retaining walls at Lead Hill Rd. (widen up to 3 m into abutment fill with tie-back walls for eastbound and westbound) (Bridge #19150)	√	√	√
	4. Widening of roadway into abutment fills using tieback retaining walls at Eureka Rd./Atlantic St. (widen up to 3 m into abutment fill with tie-back walls for eastbound and westbound) (Bridge #190058)	√	√	
CHP enforcement areas	1. Include a directional CHP enforcement area in the median for the westbound direction between the Linda Creek Bridge and Douglas Blvd. Overcrossing. 2. Include a directional CHP enforcement area in the median for the westbound direction between the Taylor Rd. overcrossing the State Route 65 connector. 3. Include a directional CHP enforcement area in the median for the eastbound direction between Eureka Rd./Atlantic St. and Roseville Parkway		√	
Traffic Operations Systems (TOS) improvements	Proposed installation of ramp metering, closed circuit television cameras, traffic monitoring stations, and changeable message signs: 1. Ramp metering systems for eastbound and westbound onramp. 2. HOV bypass lane for all onramps except at Douglas Blvd. Interchange, westbound Riverside/Auburn, and westbound Eureka Rd./Atlantic St. 3. Four closed circuit television cameras located near Cirby Way, Douglas Blvd., Eureka Rd./Atlantic St. and State Route 65. 4. Five traffic monitoring stations located at Linda Creek, Lead Hill Rd., Taylor Rd., and State Route 65. 5. One changeable message sign located near Lead Hill Rd.	√	√	√
Soundwalls	Three sets of soundwalls. The longest segment in on the right side of the westbound traffic in the eastern limits of the project.	√	√	√

Figure ii – Summary of Alternatives and Construction Estimates (Current Dollars)

Alternative Number	Proposed Improvements	Add Mainline Lanes		Add/ Modify Auxiliary Lanes	Add TOS System	TOS System Costs	Right of Way Costs ($ Million)	Construction Cost ($ Million)
		Mixed Flow	HOV					
1	Mixed-flow lanes Auxiliary lanes TOS	√		√	√	$2	$6	$85
2	HOV lanes (with enforcement area) Auxiliary lanes TOS		√	√	√	$2	$6	$85
3	Auxiliary lanes TOS			√	√	$2	$3	$10
No-Build	No changes to the existing freeway						None	None

Table of Contents

List of Technical Studies that are Bound Separately

Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study/Biological Assessment
Community Impact Assessment
Traffic Operational Study Report
Visual Analysis
Floodplain Report
Historical Property Survey Report

- Historic Architectural Survey Report
- Archaeological Survey Report

Hazardous Waste Report, Initial Site Assessment

These reports are available for review at the North Region Office of Environmental Management located at 2389 Gateway Oaks, Sacramento, CA 95833.

List of Figures

Attachments A, B, C

Build alternatives project profiles and sound wall locations.

List of Tables

List of Abbreviated Terms

Acronym/Abbreviation	Definition
AB	Aggregate Base
ADT	Average Daily Traffic
Ambient Noise Levels	The composite of normal or existing level of environmental noise at a given location.
APE	Area of Potential Effect
AQMD	Air Quality Management District
BMP	Best Management Practices
CAA	Federal Clean Air Act
CAAA	Federal Clean Air Act Amendments of 1990
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CISA	Cumulative Impact Study Area
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CO	Carbon monoxide
Corps	U.S. Army Corps of Engineers
CSC	California Species of Special Concern
CWA	Clean Water Act
dBA	A-Weighted Decibels
Decibel, dB	A unit for describing the amplitude of sound.
DGAC	Dense Graded Asphalt Concrete
DPR	California Department of Parks and Recreation
Du	Dwelling unit
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
Ft	Feet
FMMP	Farmland Mapping and Monitoring Program
GGRAC	Gap Graded Rubberized Asphalt Concrete
HOV	High Occupancy Vehicle
km	Kilometer
L_{dn}	Day-Night Average Sound Level.
L_{eq}	Equivalent Sound Level.
LOS	Level of Service

Acronym/Abbreviation	Definition
m	Meter(s)
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NOP	Notice of Preparation
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	California Native Plant Protection Act
NRCS	Natural Resource Conservation Service (formerly Soil Conservation Service, U.S. Department of Agriculture)
NRHP	National Register of Historic Properties
O_3	Ozone
Pb	Lead
PDN	Pre-discharge Notification
PM_{10}	Suspended particulate matter; Ten-Micron Particulates
ppm	Parts per million
ROG	Reactive Organic Gases
RWQCB	California Regional Water Quality Control Board
SAAQS	State Ambient Air Quality Standards
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	Sulfur dioxide
Sound Level	The sound pressure level in decibels as measured on a sound level meter.
SVAB	Sacramento Valley Air Basin
SWQCB	California State Water Quality Control Board
TOS	Traffic Operation System
ug/m^3	Micrograms per cubic meter
USFWS	U.S. Fish and Wildlife Service
TOS	Traffic Operations Systems

Chapter 1 Purpose and Need

1.1 Project Purpose

This project proposes freeway improvements on the Interstate 80 corridor to improve mobility, relieve congestion, maintain trip reliability, and enhance safety for motorists using the freeway from near the Placer/Sacramento County line to east of the State Route 65 connector. Three build alternatives are proposed to address the needs of the project. Alternative 1 and 2 include freeway improvements such as an additional mainline lane, extended auxiliary lanes, and traffic operations systems (TOS) improvements. The two alternatives enhance regional corridor mobility improvements by connecting with the 15.4-kilometer (9.6-mile) long Sacramento High Occupancy Vehicle project currently under construction. Alternative 1 aims to fulfill the project purpose through the addition of mixed flow lanes, which allow all vehicle access at all times, including peak hours. Alternative 2 aims to fulfill the project purpose through the addition of part-time high occupancy vehicle (HOV) lanes, which promote mass transit and carpooling during peak hours. Alternative 3 seeks to improve the freeway traffic through implementation of only the auxiliary lanes and TOS elements as described in Alternatives 1 and 2. In conjunction with the Traffic Operations Systems, the freeway lane additions would improve the traffic flow on the freeway and interchanges by providing more efficient traffic merges, peak hour onramp metering, and dynamic roadway condition updates. Other elements of the TOS system such as closed circuit television cameras and traffic monitoring stations provide real-time monitoring of traffic flow, allowing for quicker traffic incident response to clear the freeway of distractions or obstructions.

1.2 Project Need

Freeway improvements are required on Interstate 80 to address mobility, congestion, trip reliability, and safety issues associated with increased traffic loads on the regional transportation infrastructure. Among other factors, traffic patterns have changed due to the urban growth of the South Placer County region, the demand for recreational facilities in the Sierra Nevada and Reno, Nevada to the east, and the increase in daily interregional commuter traffic. The Caltrans Sacramento Office of Traffic Operations forecasts that the present level of service on Interstate 80 will continue to deteriorate until traffic demand exceeds the roadway capacity in 2005. The resulting

congestion and its impacts are a growing concern on the I-80 corridor between the Placer/Sacramento County line and east of the State Route 65 interchange. Along with congestion, congested-related accidents contribute to added inefficiency of the freeway system. Typically, a freeway is defined as congested if the average vehicle speeds are observed at less than 35 MPH (56 KPH) for a fifteen minute period. Both directions of Interstate 80 meet the congestion criteria, with sampled peak hour speeds of 24 MPH (39 KPH) and 23 MPH (37 KPH) recorded in the westbound and eastbound directions, respectively. From Fall 2000 to Fall 2001, the average peak congestion increased 83% to 419,000 vehicle-hours per year in the eastbound direction and 44% to 40,000 vehicle-hours per year in the westbound direction. Typical congested-related type accidents such as rear-end collisions make up 91% of the recorded accidents.

Figure 1 – Regional Map

Figure 2 – Vicinity Map

Chapter 2 Project Alternatives

2.1 Project Alternatives

Three alternatives plus a no-build alternative are under consideration. Final selection of an alternative will not be made until after the full evaluation of environmental impacts, full consideration of public hearing comments, and upon approval of the final environmental document.

2.1.1 Build Alternative 1

Alternative 1 proposes to add a mixed flow-lane on Interstate 80 in each direction from near the Sacramento/Placer County line (KP 27.9, PM 17.3) to the State Route 65 connector (KP 8.3, PM 5.1). The beginning of the additional lane would connect to the Sacramento HOV project, scheduled for completion by 2005. The Sacramento HOV project (EA 03-354604) originates west of Watt Avenue and ends approximately 0.64 km (0.4 miles) east of the Sacramento/Placer County line. Alternative 1 would align the mainline traffic away from the Sacramento I-80 HOV project lanes since mixed flow lanes cannot connect directly with HOV lanes. Drivers will be given an option to enter the HOV lanes if they are legally allowed to do so.

Because of the varying freeway median widths, the extra lane will be added by reconstructing part of the median area and expanding pavement toward the outside shoulders. The Linda Creek Bridge (Bridge #19-27) and the Miner's Ravine Bridge (Bridge #19-56) on I-80 would be widened. Linda Creek Bridge will be widened for the westbound direction only, while Miners Ravine Bridge will be widened in both directions. The proposed additional eastbound lane will be dropped east of the State Route 65 connector. The lane addition for the westbound direction will begin at approximately the same location.

Auxiliary lanes will be added on eastbound I-80 between Douglas Boulevard and Eureka Road/Atlantic Street. The eastbound freeway will be widened to five lanes from the beginning of project to the Highway 65 connector. East of Highway 65, the freeway will be widened to four lanes. A fifth outside lane will be added on westbound I-80 between State Route 65 and Douglas Boulevard. Both the westbound State Route 65 connector and westbound Taylor onramp will merge onto the outside

lane. The lane will continue past the offramp and onramp for Atlantic Street/Eureka Road. The fifth outside lane will then exit to the Douglas Boulevard offramp. Because of the lane configuration changes in the mainline, interchange onramps and offramps would be partially reconstructed to accommodate the lane additions. HOV bypass lanes will be added to onramps and the eastbound Douglas offramp will be widened to accommodate two offramp lanes. Two locations within project limits are identified as requiring additional right-of-way. On the southern side of I-80 between Douglas Boulevard and the Lead Hill Boulevard overcrossing, additional right of way will be required in order accommodate new freeway lanes. Right of way will also be acquired north of the freeway between Taylor Road and Atlantic Street adjacent to the Union Pacific Railroad property.

Traffic Operations System (TOS) improvements will be implemented at various locations within the project to increase operational efficiency and to complement the new freeway configuration; ramp meters, closed circuit television cameras, traffic monitoring stations, and changeable message signs are proposed to be installed. The estimated current cost of implementing the TOS elements is $2.0 million.

Retaining walls are proposed to support the fill beneath the widened pavement areas. Guardrails will be installed near the retaining walls to bring the geometric layout to standard. Utility relocations may be required where widening is adjacent to heavily urbanized areas such as Douglas Boulevard and Sunrise Avenue. Overpasses are to be widened to allow for the proposed additional travel lanes and for the geometric realignments created by the widening. At five locations, widening will include removal of portions of the bridge abutment fill and installation of tieback retaining walls. The overcrossings affected are at Lead Hill Road and Eureka Road/Atlantic Street. In the process of replacing the median in some areas, Type 50 median barriers within the project limits will be replaced with Type 60 barriers. The median shoulders and barrier will be replaced from the Cirby Way Overcrossing to the Highway 65 overcrossing. The median reconstruction is a result of the realignment of the freeway due to the construction of the East Roseville Parkway overcrossing. Existing soundwalls will likely be removed and replaced to allow for the widening of the roadway. In the eastbound direction, a segment of soundwall from KP 1.6 to 1.7 (PM 1.0 to PM 1.1) is proposed to be demolished and reconstructed further from the travel way. In the westbound direction, soundwall from KP 1.5 to 1.8 (PM 0.9 to PM 1.1) is proposed to be demolished and reconstructed further away from the travel way.

The estimated total cost of Alternative 1 is up to approximately $85 million (current dollars), which includes $6 million for right of way acquisition.

2.1.2 Build Alternative 2

Alternative 2 is similar to Alternative 1 except that Alternative 2 proposes to add an HOV lane instead of a mixed-flow lane in each direction of I-80. The additional lanes would be designated as HOV lanes during high traffic demand periods (6am to 10am and 3pm to 7pm weekdays), and would be used as mixed flow lane during off-peak periods. The HOV lane periods are expected to be consistent with the time periods used throughout the Sacramento Metropolitan region. The major design difference between Alternative 1 is at the westbound connections with the existing freeways. A transition located at the eastern limit of the project will be used to separate the mixed-flow westbound traffic from the newly designated HOV lane. The western terminus for the westbound direction would connect directly with the new Sacramento I-80 HOV lane. The HOV lanes proposed would be supplemented with the required California Highway Patrol (CHP) enforcement zones located between the Cirby Way overcrossing and the Highway 65 interchange.

The estimated total cost of Alternative 2 is approximately $85 million (current dollars), which includes $6 million for right of way acquisition.

2.1.3 Build Alternative 3

Alternative 3 differs from Alternatives 1 or 2 in that it proposes only the auxiliary lanes and TOS elements. The existing mainline configuration would remain. All widening of the pavement for the auxiliary lane improvements would be toward the outside shoulders.

In the eastbound direction, the limits and configuration of the auxiliary lanes are the same as proposed for Alternatives 1 and 2. The proposed auxiliary lane improvements for the westbound direction are modified from Alternatives 1 and 2. The existing fourth lane from the inside shoulder (#4 lane) merges from four lanes to three lanes starting at KP 4.3 (PM 2.7) between Eureka Road/Atlantic Street and Douglas Boulevard. The fourth lane is to be extended to exit at Douglas Boulevard while the merge is eliminated. Unlike Alternative 1 or Alternative 2, the fifth outside lane would not be modified.

Alternative 3 also differs from Alternatives 1 and 2 because the alternative proposes less widening in fewer locations. Abutment fill retaining walls may only be required under the Lead Hill Road Overcrossing. Only the I-80 Bridge structure over Linda Creek will require widening. Alternative 3 will require fewer replacements of existing soundwalls. Only one segment of the soundwall in the eastbound direction, from KP 1.6 to KP 1.7, is to be replaced. Fewer ramps are expected to be modified.

The estimated total cost of Alternative 3 is approximately $10 million (current dollars), which includes $6 million for right of way acquisition.

2.1.4 "No Build" Alternative

The no-build alternative would maintain the existing geometric freeway design. The median HOV lane project (EA 03-354601) under construction for both directions of I-80 originating near Watt Avenue will end approximately 0.64 km (0.4 miles) from the Sacramento/Placer County line. For the eastbound direction, the mainline lanes would reduce from five to four near the county line, creating a traffic bottleneck. An existing bottleneck near the Riverside Avenue/Auburn Boulevard interchange 1.2 km (0.75 miles) downstream will further reduce the mainline lanes from four to three. The three lane eastbound segment will continue to Douglas Boulevard where it will widen out to four lanes.

2.2 Alternatives Considered and Withdrawn

The original improvement concept was to extend the improvements to Horseshoe Bar, almost 7.2 km (4.5 miles) east of the eastern limits of the current proposed scope. After a traffic analysis, the project team determined that a greater need for improvement exists within the current proposed limits. In the eastbound direction, east of the project limits, over fifty percent of the traffic will have been diverted either through offramps or through the Highway 65 connector.

2.3 Placer County Transit Services

Placer County is very interested in transit as a viable mode of transportation throughout the County and region.

The Placer County Transportation Planning Agency (PCTPA) is the public agency actively studying and promoting transit services for Placer County. Current rail

services include the Capitol Corridor, the California Zephyr, and the San Joaquin train service.

Placer County is pursuing other transit projects, including establishing regional rail from Auburn to Davis (or Dixon), extending Capitol Corridor to Reno, and exploring the feasibility of rail service between Marysville and Sacramento with stops in Lincoln and Roseville. PCTPA supports freeway improvements to I-80 within Placer County, with the Alternative of HOV lanes enhancing utilization by existing and planned expanded bus transit services.

Chapter 3 Affected Environment, Environmental Consequences, and Mitigation Measures

3.1 Hydrology, Water Quality, Stormwater Runoff

The project area is located within the drainages of the American River in the Sacramento Valley. Average annual precipitation in the project is 20.8 inches (528 mm), most of which falls as rain during November through March. Most of the storm water runoff from the project area drains into Cirby Creek, Linda Creek, and Dry Creek. There are several other smaller creeks, namely Antelope Creek, Gripple Creek, Miner's Ravine, and Secret Ravine, in the vicinity of the project area. Cirby Creek, Linda Creek and Dry Creek join and flow west to the Natomas East Main Drainage Canal and finally into the Sacramento River.

3.1.1 Impacts

Based on highway storm water runoff data pollutants that typically are expected to be found in runoff from a highway include conventional constituents, hydrocarbons, metals, microbial agents, nutrients, volatile and semivolatile organics, pesticides, herbicides and others.

The projected traffic volumes will not increase as a result of this capacity improvement project. Therefore, mass loading into the receiving water bodies due to vehicular activity on the traveled way is not expected to increase as a result of this project. The pollutant loads from the project's traveled way will therefore be negligible and will not have a considerable impact on the overall water quality of the receiving water body.

The bridge widening required by this project for any of the alternatives results in the placement of additional columns in the stream channel. It is anticipated that these columns will be placed in line with the existing bridge bents and changes in base flood water surface elevations resulting from there will be minor.

The potential for erosion and increased turbidity and sedimentation exists during and immediately after the construction phase of the project. Erosion impacts would be lessened through appropriate construction management practices and construction

timing. Temporary erosion control fencing will be placed down slope of areas where disturbance of native soil is anticipated. This temporary fence will be maintained in a until soil disturbance activities are completed and permanent erosion control measures are in place.

Metals, oils, greases and other contaminants from construction may run off-site into surface waters. All of the alternatives have approximately the same length and the construction practices are assumed to be similar for all alternatives, and will have the same potential for introducing pollutants into surface waters. To limit any sediments and pollutants from impacting drainages in the project area, Best Management Practices pursuant to Caltrans Storm Water Quality Handbook and standard specifications will be implemented. Disturbed slopes will receive temporary erosion control measures at the end of each work season (prior to November 15), and permanent erosion control (including landscaping at the end of the project).

3.1.2 Mitigation Measures

To avoid or minimize impacts the practices outlined in the State Water Management Plan (SWMP) and Statewide Storm Water Practice Guidelines ensure that certain minimum design elements be incorporated into projects to maintain or improve water quality. The key elements are as follows:

- Prevent Downstream Erosion – design of drainage facilities to avoid causing or contributing to downstream erosion. Drainage outfalls, when appropriate, will discharge to suitable control measures.
- Stabilize Disturbed Soil Areas – design would incorporate stabilization of disturbed areas (when appropriate) with seeding, vegetative or other types of cover.
- Maximize Existing Vegetative Surfaces – design would limit footprints of cuts and fills to minimize removal of existing vegetation.

The project as planned would therefore not create a substantial increase in downstream erosion or siltation.

3.2 Hazardous Waste/Materials

The hazardous waste assessment included a records search, field review and examination of aerial pictures and a telephone conversation with Mr. Paul Sanders of the Central Valley Regional Water Quality Control Board.

Soil and groundwater contaminated with petroleum hydrocarbons may exist within the project limits. The approximate locations of these potential contaminants are:

- The southwest quadrant of I-80 and Douglas Blvd UC at depths between 1.8 m (6 ft) and 4.6 m (15 ft) below ground surface. This contamination may extend up to 1-Km southwest of Douglas Blvd along the eastbound lanes.
- The northwest quadrant of I-80 and Atlantic Street UC at depths between 3.7 m (12 ft) and 6.1-m (20 ft) below ground surface.

Table 1 - Potential & Existing Listed Hazardous Waste Sites

ADDRESS	TYPE OF SITE
21 Whyte Road, Roseville, CA	Small hazardous waste generator
215 Harding Blvd, Roseville, CA	Small hazardous waste gen. + one leaking UST*
212 Harding Blvd, Roseville, CA	One active UST
1505 Eureka Rd, Roseville, CA	One active UST
4450 Rocklin Rd, Roseville, CA	One active + one leaking UST + one small hazardous waste generator
4500 Rocklin Rd, Roseville, CA	One active + one leaking UST
1000 & 1017 Douglas Blvd, Roseville	Soil & groundwater contamination @ 3.9 m & 7.31m bgs**
1139 Douglas Blvd, Roseville, CA	Four active UST
1600 Douglas Blvd, Roseville, CA	Small hazardous waste generator, Four active and one leaking UST
1617 Douglas Blvd, Roseville, CA	Small hazardous waste generator
1632 Douglas Blvd, Roseville, CA	Three active + one leaking UST
251 Sunrise Blvd, Roseville, CA	Five active + one leaking UST
333 Sunrise Blvd, Roseville, CA	Small hazardous waste generator Three active and one leaking UST Soil & groundwater contamination @ 1.8 m & 4.6 m bgs
445 Roseville Rd, Roseville, CA	Three active and one leaking UST

**UST = Underground Storage Tanks*
***bgs-below ground surface*

An Asbestos Containing Materials (ACM's) survey was conducted on at each bridge location. A lead-based paint survey was also conducted. No lead-based paint materials were found at either bridge.

These bearing pad shims will require removal and proper disposal by a licensed and certified asbestos abatement contractor.

A site investigation (SI) was initiated to determine the presence and concentration of aerial deposited lead (ADL) in soil along select portions of the proposed highway project. Lead was reported in soil samples collected from the site. The source of the lead is not known, however it may be related to the historical use of leaded gasoline.

Twenty-one of the eighty-two locations where samples were taken had concentrations of lead that exceeded California hazardous waste levels. Three of those twenty-one locations had concentrations of lead that exceeded Federal hazardous waste levels. Further sampling and testing has been initiated to quantify the extent of lead-contaminated soil. After further investigation of the lead-contaminated soil, it is likely that some areas may be classified as a California hazardous waste requiring use of a Class I Disposal Site. Contract special provisions will be prepared to handle the lead-contaminated soil during the construction contract.

3.2.1 Impacts

The proposed project would result in only temporary impacts related to removal and proper disposal of Aerially Deposited Lead (ADL), and contaminated soil will be encountered during the construction phases.

3.2.2 Mitigation Measures

- Dust control practices shall be implemented for the alleviation or prevention of dust nuisance.

- A lead compliance plan shall be prepared by the contractor prior to construction activities. Soils containing hazardous levels of ADL will be excavated and disposed of at a Class 1 Disposal Facility or a Class 2 Disposal Facility permitted by the Regional Water Quality Control Board before completion of the proposed project.

- Project features in potential conflict with contaminated soil/groundwater should be eliminated or moved if possible. If conflicts can not be eliminated, then the handling of the contaminated material would be covered within the contract special provisions.

- As a precautionary measure, the Contractor is required to list an environmental sub-contractor on the "Designation of Subcontractors" form to be submitted as part of the bid proposal.

In the event suspected contaminated materials are encountered the Contractor shall stop work in the affected area and notify the Resident Engineer immediately.

The Contractor, or the Contractor's listed environmental sub-contractor, shall prepare, and submit for approval, a Site Safety Plan consistent with the requirements of 29 CFR (Code of Federal Regulations) 1910.120. The contractor shall be required to comply with the provisions of the approved Site Safety Plan during construction.

3.3 Air Quality

The proposed project is located in the west portion of Placer County and northeast portion of Sacramento County; both counties are located within the Sacramento Valley Air Basin. Placer County is designated by the U.S. Environmental Protection Agency (EPA) as an attainment area (the area has attained the air quality standard) for carbon monoxide (CO) and particulate matter 10 microns or less in diameter (generally designated as PM_{10}), but a non-attainment area (the area has not attained the air quality standard) for ozone. Sacramento County is designated by EPA as an attainment area for CO and non-attainment area for both PM_{10} and ozone.

Air quality impacts are generally assessed using one of the three possible scales of analysis: microscale, mesoscale or macroscale. The dynamics of transport, dispersion and chemical transformation for particular pollutants dictate the type of analysis most appropriate. While transportation facilities as a whole make significant contributions to both mesoscale and macroscale air quality problems, the impacts of a single project do not. Therefore, project-level air quality analyses only consider impacts within the microscale region. This region is defined as the area within approximately 300 meters of the transportation facility.

Carbon monoxide (CO) is considered the foremost microscale problem related to transportation sources, it was analyzed to determine air quality impacts at the microscale level.

Project-level impact analysis was performed to predict CO concentrations for the years 2006, 2016, and 2026. Under peak traffic volumes and worst-case

meteorological conditions, when combined with background CO levels, the predicted CO concentration for all build alternatives are below both federal and state CO standards.

Before adopting the Metropolitan Transportation Plan (MTP) and Metropolitan Transportation Improvement Plan (MTIP), Sacramento Area Council of Governments (SACOG) performed a quantitative analysis to determine if implementation of the set of projects included in these documents would result in violations of the ozone and PM_{10} air quality standard. Based on this analysis, SACOG has concluded that implementing the set of projects included in the MTP and MTIP would not result in a violation of the ozone standard and would result in reduction of PM_{10} emission. The proposed project is a component of the set of projects included in the MTP and MTIP. The MTIP conforms with the SIP (State Implementation Plan). In addition, the project would not result in a violation of the CO air quality standard. Therefore, the project is found to be in conformance with the SIP in accordance with the conformity requirements of the Clean Air Act.

3.3.1 Impacts

The proposed project may generate short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM_{10}, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. Both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature.

3.3.2 Mitigation Measures

The temporary construction-related emission impacts will be mitigated by requiring the contractor to use Best Management Practices and comply with Caltrans Standard Specifications which includes Section 7-1.01F, “Air Pollution Control” and Section 10, “Dust Control.”

3.4 Noise

Noise abatement measures that are *reasonable* and *feasible* and that are likely to be incorporated into the project, as well as noise impacts for which no apparent solution

is available, must be identified and incorporated into the project's plans and specifications. Table 2 summarizes the FHWA/Caltrans noise abatement criteria for various land uses.

Table 2 - Activity Categories and Noise Abatement Criteria

Activity Category	NAC, Hourly A-weighted Noise Level, dBA Leq(h)	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands.
E	72 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Figure 3 – Noise Stations

3.4.1 Affected Environment

Land uses potentially subject to traffic noise impacts include single-family and multifamily residences, a school, a church, parks and open space areas, motels, and commercial uses. Noise abatement is only considered where noise impacts are predicted, where frequent human use occurs, and where a lowered noise level would be of benefit. Frequent human use is considered to occur at exterior locations in which people are exposed to highway noise for 1 hour or more on a regular basis. Impacts are only assessed at locations where frequent human use occurs and where a lowered noise level would be beneficial. Impacts are typically assessed at residential locations with defined outdoor activity areas (e.g., backyards and patios) and parks with defined activity areas (e.g., playgrounds and picnic tables) that are not currently protected by existing Caltrans noise barriers.

Detailed impact and abatement assessment has been conducted in three primary areas in the project area (Figure 4):

- **Area 1:** the Tabernacle Baptist Church and the Stonegate Mobile Home Park located north of I-80 and west of Riverside Avenue.
- **Area 2:** the residential subdivision in Roseville located north of I-80 just west of Douglas Boulevard.
- **Area 3:** the residential subdivision in Rocklin located north of I-80 east of SR 65.

The single isolated residences located at 805 Marlin Drive and at the end of Elisa Way were also assessed.

Several parks and open space areas are also located in the project area. Only Woodside Park in Rocklin was identified as having areas of frequent human use that would benefit from a lowered noise level.

No commercial land uses in the project area have outdoor activity areas with frequent human use that would benefit from a lowered noise level. Therefore, traffic noise impacts are not evaluated in detail for commercial land uses in the project area, and impacts are not considered to occur at those locations.

3.4.2 Impacts

A field noise investigation was conducted to quantify existing noise conditions while noise-modeling software (Sound32) was used to evaluate traffic-noise for design-year (2026) conditions.

Tables 3a, 3b and 3c and Figures 2a-f summarize and illustrate the traffic noise modeling results respectively. As indicated in the tables, traffic noise impacts are predicted (i.e., FHWA noise abatement threshold may be approached or exceeded) in the project area under each alternative. Impacts are also predicted at isolated residences on large lots within about 450 feet of the highway centerline. None of the alternatives would result in a substantial noise increase.

Table 3a – Summary of Traffic Noise Modeling Results at Area 1

Receiver	Location	Type of Development	Units Represented	Activity Category NAC (dB-L[h])	Existing Worst Noise Hour Noise Level (dB-Leq[h])	Predicted[a] Worst Noise Hour Noise Level (dB-Leq[h])			Noise Increase (dB)			Impact Type[b]		
						Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3[c]	Alt. 1	Alt. 2	Alt. 3
1	Tabernacle Baptist	Church/school	NA	B (67 dB)	76	71	72	76	-5	-4	0	A/E	A/E	A/E
2 (M)	Tabernacle Baptist	Church/school	4[d]	B (67 dB)	74	69	70	74	-5	-4	0	A/E	A/E	A/E
3 (L)	Tabernacle Baptist	Church/school	4[d]	B (67 dB)	74	69	70	74	-5	-4	0	A/E	A/E	A/E
4 (N)	Stonegate Mobile Home	Residence	4	B (67 dB)	72	67	68	72	-5	-4	0	A/E	A/E	A/E
5	Stonegate Mobile Home	Residence	9	B (67 dB)	72	67	68	72	-5	-4	0	A/E	A/E	A/E
6 (O)	Stonegate Mobile Home	Residence	10	B (67 dB)	72	67	68	72	-5	-4	0	A/E	A/E	A/E
7	Stonegate Mobile Home	Residence	7	B (67 dB)	72	67	67	72	-5	-5	0	A/E	A/E	A/E
8	Stonegate Mobile Home	Residence	6	B (67 dB)	72	67	68	72	-5	-4	0	A/E	A/E	A/E
9	Stonegate Mobile Home	Residence	4	B (67 dB)	73	67	68	73	-6	-5	0	A/E	A/E	A/E
10	Stonegate Mobile Home	Residence	4	B (67 dB)	72	67	68	72	-5	-4	0	A/E	A/E	A/E
12	Stonegate Mobile Home	Residence	4	B (67 dB)	70	65	66	70	-5	-4	0	none	none	None
13	Stonegate Mobile Home	Residence	5	B (67 dB)	71	66	66	71	-5	-4	0	A/E	A/E	A/E
14	Stonegate Mobile Home	Residence	6	B (67 dB)	71	66	67	71	-5	-4	0	A/E	A/E	A/E
15	Stonegate Mobile Home	Residence	5	B (67 dB)	71	66	67	71	-5	-4	0	A/E	A/E	A/E
16	Stonegate Mobile Home	Residence	8	B (67 dB)	71	66	67	71	-5	-4	0	A/E	A/E	A/E
17	Stonegate Mobile Home	Residence	8	B (67 dB)	71	65	66	71	-6	-5	0	none	none	none
18	Stonegate Mobile Home	Residence	4	B (67 dB)	70	65	65	70	-5	-5	0	A/E	A/E	A/E

Table 3b – Summary of Traffic Noise Modeling Results at Area 2

Receiver	Location	Type of Development	Units Represented	Activity Category NAC (dB-L[h])	Existing Worst Noise Hour Noise Level (dB-Leq[h])	Predicted[a] Worst Noise Hour Noise Level (dB-Leq[h])			Noise Increase (dB)			Impact Type[b]		
						Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3
1	Roseville subdivision	Residence	1	B (67 dB)	62	62	63	62	0	1	0	none	none	none
2	Roseville subdivision	Residence	3	B (67 dB)	61	61	61	61	0	0	0	none	none	none
3 (H)	309 Marion Way	Residence	1	B (67 dB)	65	66	66	65	1	1	0	A/E	A/E	none
4	Roseville subdivision	Residence	1	B (67 dB)	66	66	67	66	0	1	0	A/E	A/E	A/E
5	Roseville subdivision	Residence	4	B (67 dB)	62	62	63	62	0	1	0	none	none	none
6	Roseville subdivision	Residence	1	B (67 dB)	64	64	65	64	0	1	0	none	none	none
7	Roseville subdivision	Residence	1	B (67 dB)	65	66	67	65	1	2	0	A/E	A/E	A/E

Table 3c – Summary of Traffic Noise Modeling Results at Area 3

Receiver	Location	Type of Development	Units Represented	Activity Category NAC (dB-L[h])	Existing Worst Noise Hour Noise Level (dB-Leq[h])	Predicted[a] Worst Noise Hour Noise Level (dB-Leq[h])			Noise Increase (dB)			Impact Type[b]		
						Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3
1	Rocklin subdivision	residence	1	B (67)	66	66	66	66	0	0	0	A/E	A/E	A/E
2 (A)	5965 Aspen Court	residence	2	B (67)	67	68	68	67	1	1	0	A/E	A/E	A/E
3	Rocklin subdivision	residence	4	B (67)	65	66	66	66	1	1	1	A/E	A/E	A/E
4 (D)	6049 Kingwood Drive	residence	4	B (67)	67	68	68	67	1	1	0	A/E	A/E	A/E
5	Rocklin subdivision	residence	2	B (67)	64	65	65	64	1	1	0	none	none	none
6	Rocklin subdivision	residence	2	B (67)	61	62	62	62	1	1	1	none	none	none
7	Rocklin subdivision	residence	1	B (67)	63	63	63	63	0	0	0	none	none	none
8	Rocklin subdivision	residence	1	B (67)	66	67	67	67	1	1	1	A/E	A/E	A/E
9	Rocklin subdivision	residence	2	B (67)	62	63	63	62	1	1	0	none	none	none
10 (B)	3630 Woodglade	residence	1	B (67)	68	69	69	68	1	1	0	A/E	A/E	A/E
11 (C)	Woodside Park	park	8 [c]	B (67)	67	68	68	68	1	1	1	A/E	A/E	A/E
12 (E)	3258 Westwood Drive	residence	1	B (67)	66	67	67	67	1	1	1	A/E	A/E	A/E

Receiver	Location	Type of Development	Units Represented	Activity Category NAC (dB-L[h])	Existing Worst Noise Hour Noise Level (dB-Leq[h])	Predicted[a] Worst Noise Hour Noise Level (dB-Leq[h])			Noise Increase (dB)			Impact Type[b]		
						Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3
13	Rocklin subdivision	residence	6	B (67)	67	68	68	68	1	1	1	A/E	A/E	A/E
14 (G)	3168 Westwood Drive	residence	6	B (67)	67	67	68	67	0	1	0	A/E	A/E	A/E
15	Rocklin subdivision	residence	4	B (67)	67	68	68	68	1	1	1	A/E	A/E	A/E
16	Rocklin subdivision	residence	2	B (67)	67	67	68	67	0	1	0	A/E	A/E	A/E
17	Rocklin subdivision	residence	1	B (67)	62	63	63	63	1	1	1	none	none	none
18	Rocklin subdivision	residence	1	B (67)	60	61	61	60	1	1	0	none	none	none
19 (F)	6595 Woodcrest Court	residence	1	B (67)	60	61	61	60	1	1	0	none	none	none
20	Rocklin subdivision	residence	1	B (67)	61	62	62	62	1	1	1	none	none	none
21	Rocklin subdivision	residence	1	B (67)	63	64	64	64	1	1	1	none	none	none
22	Rocklin subdivision	residence	3	B (67)	62	63	63	62	1	1	0	none	none	none
23	Rocklin subdivision	residence	3	B (67)	61	62	62	62	1	1	1	none	none	none
24	Rocklin subdivision	residence	4	B (67)	61	62	62	62	1	1	1	none	none	none
25	Rocklin subdivision	residence	2	B (67)	60	61	61	60	1	1	0	none	none	none
26	Rocklin subdivision	residence	2	B (67)	61	62	62	62	1	1	1	none	none	none
27	Rocklin subdivision	residence	2	B (67)	62	63	63	63	1	1	1	none	none	none
28	Rocklin subdivision	residence	2	B (67)	62	63	63	62	1	1	0	none	none	none
29	Rocklin subdivision	residence	2	B (67)	62	63	63	63	1	1	1	none	none	none
30	Rocklin subdivision	residence	4	B (67)	63	63	63	63	0	0	0	none	none	none
31	Rocklin subdivision	residence	4	B (67)	61	62	62	62	1	1	1	none	none	none
32	Rocklin subdivision	residence	2	B (67)	61	62	62	61	1	1	0	none	none	none

A substantial increase in noise is defined as an increase from existing conditions to design-year conditions of 12 dB or more.

3.4.3 Construction Phase Impacts

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans' standard specifications (section 7-1.01I, "Sound Control Requirements"), which state that noise levels generated during construction shall comply with applicable local, state, and federal regulations and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

Table 4 summarizes noise levels produced by construction equipment commonly used on roadway-construction projects. Construction equipment is expected to generate noise levels ranging from 70–90 dB at a distance of 15 meters (50 feet), and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 4 - Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 15 meters [50 feet])
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration 1995.

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans' standard specifications and would be short-term, intermittent, and dominated by local traffic noise. Further, implementing the following measures would minimize temporary noise impacts from construction.

The noise environment within this corridor is dominated by Interstate 80 traffic traversing Interstate 80. Sound levels adjacent major highways typically exceed 69 dBA. Sound walls are proposed in sensitive land use areas where a noise impact

occurs and walls are deemed reasonable and feasible. Each of the alternatives will only result in a maximum noise increase of 2 decibels.

3.4.4 Mitigation Measures

Noise abatement is considered to be feasible from an acoustical perspective if it provides 5 dB of noise reduction. Noise abatement is not considered reasonable at isolated residences on large lots adjacent to I-80 because the maximum reasonableness allowance for a single residence ($32,000–37,000) would be insufficient for an acoustically feasible wall. The feasibility and reasonableness of proposed noise barriers have been evaluated. A preliminary noise abatement design and information to be used in assessing the ultimate feasibility and reasonableness of the noise abatement design are summarized in Tables 4, 5, and 6. The tables summarize the sound wall construction cost estimate. Due to issues of future widening, concern of vandalism in a non visible area created by 2 overlapping sound walls, and visual impacts a supplemental assessment has been performed to consider removing and replacement of existing sound wall (NB-1) along the R/W line shielding Stonegate Mobile Home Park. The three scenarios evaluated are as follows:

Scenario 1 – Entire length of existing wall raised in wall-height increments relative to ground on mobile home park side of existing wall

Scenario 2 – Entire length of existing wall raised in increments relative to the edge of pavement elevation

Scenario 3 – The west end of wall raised where the existing wall height drops below about 10 feet above existing ground on the mobile home park side of the wall

Tables 7, 8 and 9 summarize the results of this additional assessment.

The noise barriers NB-3, and NB5-1 to 4 are considered reasonable, from a cost perspective. NB-1 is considered not reasonable, from a cost perspective. NB-2 may not be reasonable due to reasonableness factors including life cycle of abatement measures, social and visual impacts.

Based on the studies so far accomplished, Caltrans intends to incorporate noise abatement measures in the form of the noise barriers: NB3, and NB5-1 to 4 as characterized in Figure 2a-f. Heights would range from 4.3-4.9 Meters (14-16 ft).

Calculations based upon preliminary design data indicate that the barriers would reduce noise by 5-9 dBA for NB3 and 5-10 dBA for NB5-1 to 4.

A final decision of the construction of the sound walls will be made upon completion of the project design and the public involvement process. For Alternative 3, sound walls will only be included adjacent new or modified auxiliary lanes.

Please refer to attachments A, B & C for sound wall locations.

Table 5 - Scenario 1

Barrier	Height (meters [feet])	Provides 5 dB of Noise Reduction?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Cost
NB1	4.3 (14)	Yes	4	$29,000	$116,000	$716,910
	4.9 (16)	Yes	14	$31,000	$434,000	$765,630
> 16' SW, not allowed	5.5 (18)	Yes	21	$31,000	$651,000	$814,350
> 16' SW, not allowed	6.1 (20)	Yes	36	$31,000	$1,116,000	$863,070
> 16' SW, not allowed	6.7 (22)	Yes	56	$33,000	$1,848,000	$911,790
> 16' SW, not allowed	7.3 (24)	Yes	70	$33,000	$2,310,000	$960,510
> 16' SW, not allowed	7.9 (26)	Yes	70	$33,000	$2,310,000	$1,009,230
Note: Elevations relative to ground elevation at base of wall on the mobile home park side.						

Table 6 - Scenario 2

Barrier	Height (meters [feet])	Provides 5 dB of Noise Reduction?	Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Cost
NB1	3.7 (12)	Yes	31	$33,000	$1,023,000	$892,664
	4.3 (14)	Yes	46	$33,000	$1,518,000	$948,692
	4.9 (16)	Yes	46	$33,000	$1,518,000	$1,004,720
Note: Elevations relative to EP elevation.						

Table 7 - Scenario 3

Barrier	Height (meters [feet])	Provides 5 dB of Noise Reduction?	Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Cost
NB1	4.3 (14)	Yes	4	$29,000	$116,000	$584,336
	4.9 (16)	Yes	14	$31,000	$434,000	$626,231
> 16' SW, not allowed	5.5 (18)	Yes	14	$31,000	$434,000	$668,126
> 16' SW, not allowed	6.1 (20)	Yes	23	$31,000	$713,000	$710,021
> 16' SW, not allowed	6.7 (22)	Yes	23	$33,000	$759,000	$751,916
> 16' SW, not allowed	7.3 (24)	Yes	34	$33,000	$1,122,000	$793,811
> 16' SW, not allowed	7.9 (26)	Yes	34	$33,000	$1,122,000	$835,706
Note: Elevations relative to ground elevation at base of wall on the mobile home park side.						

3.5 Energy

Although the proposed project may add to a cumulative demand for energy, upon completion of this project there may be a reduction in energy demand. The congestion already exists, and any of the build alternatives of this project would ease traffic congestion, improve traffic flow, and improve safety along the interstate. This, in turn, would increase fuel efficiency and reduce energy demand. Alternative 2, with HOV lanes for carpools and commuter buses, would additionally improve fuel economy as well as increase people-moving capacity on the interstate.

3.6 Wetlands and Other Waters of the United States

Waters of the U.S, which include wetlands, will be impacted and a Nationwide Section 404 permit from the Army Corp of Engineers (ACOE) and a Section 401 certification will be required from the Regional Water Quality Control Board for impacts to wetlands near Douglas Boulevard, and Waters of the US along Miners Ravine and Linda Creek. Work along Miners Ravine and Linda Creek will also require a 1601 Streambed Alteration Agreement. *

3.6.1 Affected Environment

The project site is located at the northern end of Sacramento County and in the cities of Roseville and Rocklin, Placer County, California in the Great Central Valley Floristic Province, Sacramento Valley subregion (Hickman 1993). The climate fluctuates with the seasons, with hot dry summers and cool wet winters. Average annual rainfall in the project area is ≈ 22 inches. Elevations at the project site ≈ 150-200 ft.

The California Wildlife Habitat Relationships Program (CWHR), California Department of Fish and Game (CDFG 1999) identified four habitat types within or adjacent to the project site including fresh emergent wetland (FEW), valley foothill riparian (VRI), riverine (RIV), and urban (URB). *

Valley foothill riparian habitats are associated with gentle topography and low velocity flows. The structure of VRI usually consists of deciduous overstory trees with a shrub layer with canopy cover reaching 80 percent or more (CDFG 1999). Valley foothill riparian habitat is found along Linda Creek and Miners Ravine. Overstory trees consists primarily of interior live oak *(Quercus wislizenii),* valley oak

* Both USGS & FEMA maps identify Miners Ravine as Dry Creek and Linda Creek as Cirby Creek; the local names will be utilized.

(Q. lobata), Blue oak *(Q. douglassi)*, willow *(Salix sp.)*, alder *(Alnus rhombifolia)* and Fremont cottonwood (*Populus fremonti*) with an open understory of native and non-native forbs and shrubs.

Fresh emergent wetlands are characterized by erect, rooted herbaceous hydrophytes (CDFG 1999). The roots of FEW vegetation thrive in an anaerobic environment and perennial monocots are usually the dominant vegetation. They are among the most species rich wildlife habitats in California. In the project area the FEW is dominated by Baltic (*Juncus balticus*) and sedge (*Cyperus sp.*).

A small wetland is located in the project area on eastbound Interstate 80, east of the Douglas Blvd, onramp. The wetland/marsh occurs at the southern edge of a vacant field that was recently plowed. The water comes from an unknown source, but appears to have accumulated from a combination of ditches running under the freeway and also along the parking lot adjacent to the field. Small cattail marshes are also located adjacent to various culverts proposed for replacement.

Riverine systems are characterized by intermittent or continually running water. This water originates at some elevated level and flows downward. Velocity generally declines at progressively lower elevations with water volume increasing. Water temperature increases and the bottom substrate changes from rocky to muddy as elevation decreases. Many wildlife species use open water zones for resting and escape cover and areas closer to shore provide food for waterfowl, shorebirds, and other species. Portions of both Linda Creek and Miners Ravine are within the project limits.

The structure of urban vegetation varies depending on species composition (native and exotic) and land use. There is a general progression outward of decreasing development and increasing vegetation cover. Species richness is very low in the inner core and increases as you move outward. The majority of vegetation consists of previously landscaped ornamental plantings, and ruderal vegetation. Urban residential habitat is found throughout the project site.

3.6.2 Impacts

The realignment of the Douglas Blvd. eastbound onramp and replacement of various culverts will impact 0.1 ha (0.25 ac) of fresh emergent wetlands. A Nationwide Section 404 permit and a Regional Water Quality Permit Section 401 certification

will be sought before construction. There are several approved mitigation banks in the area that could be used to provide compensatory mitigation for wetlands.

3.6.3 Construction Phase Impacts

Temporary impacts (vegetation removal) to fresh emergent wetlands and riparian vegetation may occur during installation and removal of the temporary stream crossing, culvert installation, and various construction activities. These impacts will be minimized during all construction stages by using Caltrans Best Management Practices (BMP's).

An estimated 77 culverts will need to be extended or replaced for the proposed project. This is an unofficial count and will depend on hydraulic surveys. Biological surveys were done to ascertain whether any of the culverts would encroach upon the Army Corp of Engineers definition of "Waters of the U.S". Only one culvert at Post Mile 4.71, east of Highway 65, appears to meet the definition of Waters of the U.S. A Nationwide permit will be sought before construction can begin on this culvert.

Temporary impacts (vegetation removal) to fresh emergent wetlands may occur due to new culvert installation at various roadside drainages along Interstate. These impacts will be minimized during all construction stages by using Caltrans BMP's.

3.6.4 Mitigation Measures

Impacts to wetlands and non-wetland waters shall be mitigated in accordance with the final ACOE Sacramento District Habitat Mitigation and Monitoring Proposal (HMMP) Guidelines. An approved mitigation bank will be used for compensatory mitigation for wetlands.

Best management practices as described below will be implemented to minimize the potential for impacts to wetlands and other vegetation communities and in the revegetation of any disturbed areas.

1. Environmentally Sensitive Areas (ESA's) will be identified at the edge of the designated work areas to prevent additional impacts to wetlands, other riparian vegetation and waterways. The ESA's will be established as one of the first orders of work, prior to any clearing or grubbing. The boundary of the work area/ESA will be clearly identified on the project plans and in the field. The limits of the

ESA's will be designated with flagging and/or fencing and maintained throughout the construction period.

2. Vegetation removal will be the minimum necessary to provide access to culverts and other construction sites.

3. In order to reduce the potential of introducing invasive or non-native plant species into the project area and to comply with Executive Order #13112 (Invasive Species), only native California plant species that are appropriate for the project area shall be used.

4. The office of Landscape Architecture shall coordinate with a biologist in the Office of Environmental Management to prepare an erosion control and re-vegetation plan for areas disturbed by construction activities (see appendix A).

5. Straw or mulch applications must be sterile or certified weed-free.

3.7 Vegetation

Caltrans compared habitat requirements to available habitat in the project area for sensitive plant species and natural vegetation communities and concluded that no sensitive plant species are expected to occur at the project site. The project is not expected to negatively impact any sensitive plant species.

3.7.1 Impacts

A group of 7-10 large interior live oaks which line the slopes above Linda Creek and two Blue oaks found in the seasonal wetland/marsh area between Douglas Blvd and the Lead Hill Blvd. overpass may be removed. Numerous other native oaks line the project vicinity and may have to be removed to complete the widening. The exact number is not known at this time. Native oaks are protected by the City of Roseville under the Oak Tree Preservation Ordinance (City of Roseville Municipal Code, Title 16 Section 16.10) and The City of Rocklin under the Rocklin Municipal Code Section 17.77.100, these documents also provides guidelines for construction activities near protected trees.

The widening of two bridges (Dry Creek (Miners Ravine) and Linda Creek (Cirby Creek) bridges) will impact approximately 0.061 ha (0.15 ac) and 0.044 ha (0.11 ac) of VRI habitat respectively depending on alternatives.

Temporary impacts (vegetation removal) to riparian vegetation, and resources downstream of the temporary stream crossing may occur during installation and removal of the temporary stream crossing, culvert replacement, and various construction activities. These impacts will be minimized during all construction stages by using Caltrans BMP's.

3.7.2 Mitigation Measures

Oak Trees

California Senate Concurrent Resolution No. 17 – Relative to oak woodlands states:

> "The measure would request those state agencies to undertake, in the performance of their duties and responsibilities, to preserve and protect native oak woodlands to the maximum extent feasible and consistent with the performance of those duties and responsibilities, or provide from replacement planting where designated oak species are removed from oak woodlands."

This project could result in the removal of native oak trees in the R/W along Interstate 80. Native oaks are protected by the City of Roseville under the Oak Tree Preservation Ordinance (City of Roseville Municipal Code, Title 16 Section 16.10), which also provides guidelines for construction activities near protected trees.

As part of the project and in accordance with the City's Oak Tree Preservation Ordinance native trees will be identified, evaluated and tagged by a certified arborist. Oak trees removed will be replaced at a mitigation ratio required under the provisions of the California Department of Fish and Game.

Best management practices as described below will be implemented to minimize the potential for impacts to all vegetation communities and in the revegetation of any disturbed areas.

1. Environmentally Sensitive Areas (ESA's) will be identified at the edge of the designated work areas to prevent additional impacts to wetlands, riparian vegetation, and waterways. The ESA's will be established as one of the first orders of work, prior to any clearing or grubbing. The boundary of the work area/ESA will be clearly identified on the project plans and in the field. The limits of the ESA's will be designated with flagging and/or fencing and maintained throughout the construction period.

2. Vegetation removal will be the minimum necessary to provide access to the stream channel and other project areas.

3. In order to reduce the potential of introducing invasive or non-native plant species into the project area and to comply with Executive Order #13112 (Invasive Species), only native California plant species that are appropriate for the project area shall be used.

4. The office of Landscape Architecture shall coordinate with a biologist in the Office of Environmental Management to prepare an erosion control and re-vegetation plan for areas disturbed by construction activities.

5. Straw or mulch applications must be sterile or certified weed-free.

Any additional measures included in the 1601 agreement, 404 permit, and 401 certification will be implemented.

3.8 Wildlife

3.8.1 Affected Environment

A literature review was conducted using the California Department of Fish and Game's Natural Diversity Data Base (CNDDB) for the Citrus Heights, Roseville, Rocklin, and Folsom 7.5 minute USGS quadrangles. These species, their scientific names, and occurrences in the area are shown in Tables 1 and 2 of the Natural Environmental Study.

For habitat descriptions see Section 3.6.1.

3.8.2 Impacts

No permanent impacts to wildlife are expected as a result of this project.

Linda Creek and Miners Ravine may potentially provide habitat for the northwestern pond turtle (*Clemmys marmorata marmorata*). Though there are no records of pond turtles occurring in the project vicinity, various construction activities expected to occur could impact any turtles in the project site. Avoidance measures listed below (Mitigation and Minimization section) are to ensure protection in case of detection during construction activities.

It is anticipated that cliff swallows may try to nest on the Linda Creek and Miners Ravine Bridges between February 15 and September 1st. Other bird species including waterfowl, shore birds, raptors, and neotropical migrants could potentially use fresh emergent wetlands and riparian vegetation in the project area for nesting, cover, and foraging. Riparian communities located both upstream and downstream of the project site should provide nesting, cover, and foraging habitat for any temporarily displaced avian species.

Species of the order Chiroptera could use the Linda Creek and Miners Ravine Bridges for night roosting, maternity roost sites, and winter hibernacula. No roosting bat species were observed during any of the site visits. There are no records of any special status bat species occurring in the project area and no bats were identified during surveys.

3.8.3 Mitigation Measures

- The project's special provisions shall include the requirement of temporary work stoppage in the event that any of the above mentioned species are detected in the construction area during construction activity. This will allow the animal to escape the immediate area and locate cover elsewhere.
- If any work is anticipated on this structure between February 15 and September 1, the construction crews shall take such measures as necessary to prevent nesting on portions of the structures that will cause a conflict between performing necessary work and nesting swallows. Prior to February 15, existing nests shall be removed and exclusionary devices such as netting shall be used.
- Daily scalping between February 15 and September 1, of partially completed nests is permitted to discourage nesting. If new nests are built or existing nests become occupied, then any work that would interfere with or discourage swallows from returning to their nests will not be permitted.
- A qualified biologist will perform a nesting bird survey prior to the removal of vegetation in the riparian zone of Cirby and Miners Ravine that will be required for access to the stream channel. If nesting birds are present, no construction activities that will interfere with nesting activities will be permitted until a qualified biologist determines the nest is no longer in use.

3.9 Threatened and Endangered Species

The California Endangered Species Act (CESA) provides for the conservation of species which are threatened or endangered throughout all or a significant portion of their range and the conservation of the ecosystems on which they depend. "Species" is defined by the CESA to mean a species, a subspecies, or, for vertebrates only, a distinct population.

3.9.1 Affected Environment

Miners Ravine and Linda Creek are the two main drainages that cross the proposed project. Both creeks have known populations of steelhead and fall-run Chinook salmon. For habitat descriptions see Sec. 3.6.1.

3.9.2 Impacts

No permanent impacts to threatened or endangered species are expected as a result of this project.

Temporary impacts (vegetation removal) to fresh emergent wetlands and riparian vegetation may occur during installation and removal of the temporary stream crossing, culvert installation, and various construction activities at bridge sites.

The widening of the Miners Ravine and Linda Creek bridges will impact approximately 0.06 ha (0.15 ac) and 0.04 ha (0.11 ac) of VRI habitat respectively depending on alternatives. The construction of a temporary stream crossing may temporarily impact the federally listed Central Valley California ESU steelhead and Fall-run Chinook salmon. These temporary impacts will not likely result in a trend towards federal listing or loss of species viability.

Linda Creek and Miners Ravine may potentially provide habitat for northern red-legged frog (*Rana aurora draytonii*) (NRLF). Though there are no records of NRLF occurring in the project vicinity, various construction activities expected to occur could impact any frog or turtle in the project site. Avoidance measures listed below (Mitigation and Minimization section) are to ensure protection in case of detection during construction activities. Impacts will be minimized during all construction stages by using Caltrans BMP's.

Most of the Special status plant species occurring in the project area is associated with vernal pools; thus, the potential for impacts is directly related to the extent of vernal pool impacts. Similarly, potential impacts to special status vernal pool invertebrates are directly related to the extent of vernal pool impacts. There are no vernal pools associated with this project; therefore no cumulative impacts are to be expected.

3.9.3 Mitigation Measures

Steelhead and salmon may be present in Linda Creek and Miners Ravine at the project site during the construction period. Impacts to sensitive salmonid species will be avoided and minimized by conducting in water work during the period between migration runs, and when non-natal juvenile salmonids are least likely to be present.

1. In water work, including the construction and removal of temporary stream crossing structures, during the replacement of the Miners Ravine and Linda Creek Bridges may only proceed between June 15th and October 15th.

2. Caltrans shall ensure that the contractor conducts work operations so as to allow free passage of all age classes of steelhead and Chinook salmon in Miners Ravine and Linda Creeks at all times. Any intakes that may be required for water pumps associated with wetting/ irrigation/ de-watering of sites shall be screened to National Marine Fisheries Service (NMFS) specifications for salmonids.

3. Installation and design of the temporary stream crossing will adhere to guidelines published by the NMFS.

4. A qualified fishery biologist will be present on site to relocate any steelhead in the immediate construction area before culverts and fill are installed and removed.

5. Best management practices will be implemented during in-stream work as described below (water quality) in order to avoid and minimize impacts to water quality and fisheries resources.

6. Caltrans' Standard Specifications require the Contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives to minimize water pollution impacts set forth in section 7-1.01G of Caltrans'

Standard Specifications. These standards/objectives, at times referred to as Best Management Practices, include but are not limited to:

A. Where work areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams shall be constructed and maintained between work areas and streams. During construction of the barriers, muddying of stream waters shall be held to a minimum.

B. Bridge demolition and construction shall be performed in a manner that avoids the discharge of debris into the stream channel.

C. A temporary stream crossing for equipment access shall be constructed to carry the stream free from mud and silt while work is being performed within the stream channel

D. Removal of materials from beneath a flowing stream shall not be commenced until adequate means are provided to carry the stream free from mud or silt around the removal operations.

E. Refueling of all vehicles shall be conducted further than 100 feet from wetlands, riparian areas, and ditches to prevent accidental spills from contaminating these areas.

7. All temporary fills required for the stream crossing/work platform will be removed upon completion of in-stream work activities (prior to Oct. 15).

8. Erosion control measures will be implemented at any of the sites requiring vegetation removal or ground breaking and may include the use of organic mulch and/or seeding or plantings, including mitigation plantings described above. The Office of Landscape Architecture shall coordinate with a biologist in the Office of Environmental Management to prepare an erosion control and re-vegetation plan for areas disturbed by construction activities.

9. Any additional measures included in the 1601 agreement, 404 permit, and 401 certification will be implemented.

3.10 Floodplains

3.10.1 Affected Environment

The bridges over Miners Ravine and Linda Creek are to be widened. No hundred-year flood within the floodplain has been recorded. The bridges at Miners Ravine and Linda Creek encroach transversely upon designated floodplains, with base flood elevations determined.

Currently, Miners Creek has a City of Roseville proposed bike path to be built south of the creek. The area is currently filled with vegetation, with some areas covered with cobbles or stones. Linda Creek is currently lined with concrete on all sides of the channel. The banks are lined with masonry-type stones paved over the area under the bridge.

3.10.2 Impacts

The bridge widening required by this project for any of the alternatives results in the placement of additional columns in the stream channel to accommodate the widening of the structure. It is anticipated that these columns will be placed in-line with the existing bridge bents and changes in base flood water surface elevations resulting therefrom will be minor. The exact column locations will be determined in the design phase of the project following geotechnical sampling of the soil by the structures office. When the proposed project is complete, the columns will be at the banks of the creeks. Additional shading of the area will be provided by the widened structures.

One column will most likely require the removal and replacement of a short segment of the channel wall in order to place the column footing.

Excavation of the footing for the columns, if necessary, will require excavation of at least a 10’ by 10’ area, to be backfilled when completed. Access to the creek area is proposed to be obtained through use of existing right of way either from the freeway or from the offramp structures. During construction, the areas will be used as access points for manpower and for equipment to reach the site. The disturbed areas, as governed by Caltrans standard specifications and special provisions, will be returned to the prior condition as reasonably possible.

Following construction of the bridge structure, the only permanent structure visible will be the columns and the new bridge deck. The bridge deck will decrease the lighting, while the columns will most likely be in line with the rest of the bridge columns along the same bent.

3.10.3 Mitigation Measures

If necessary, disturbance to the flowline and banks of the creeks will be minimized through methods including silt fences, temporary bridging, environmental sensitive area fencing, and supervision by environmental personnel in overseeing sensitive portions of the operations. For areas where disturbance is unavoidable, the Caltrans standard specifications and special provisions govern and will require restoration to prior environmental condition as much as reasonably possible.

3.11 Recreational Areas

3.11.1 Affected Environment

Tabernacle Baptist Church and Valley Christian Academy are located at 301 West Whyte Avenue in Roseville, adjacent to Interstate 80. There are privately owned and operated outdoor recreational facilities at this site, as well as child care services. Approximately 350 students are enrolled at Valley Christian Academy.

Miner's Ravine is an undeveloped riparian corridor designated on the City of Roseville's Land Use Map as "Open Space/Flood Area". Current access along Miner's Ravine Creek under I-80 is available by way of narrow, unimproved trails. Frequency of use is difficult to determine. The Roseville General Plan map of Existing and Planned City Parks and Recreation Areas shows the location of Sculpture Park, a partially developed park located near Miner's Ravine, east of I-80. The City of Roseville has prepared designs and environmental documentation for the Sculpture Park to Harding Boulevard Bikeway along Miner's Ravine.

Golfland Sunsplash is a combination miniature golf / waterslide park located adjacent to and south of Interstate 80 on Taylor Road. While there is no barrier separating this largely outdoor recreational area from the highway, activities on site are not currently adversely affected by roadway proximity.

Secret Ravine Creek is located south of I-80 in Rocklin. The City's General Plan Land Use Map designates the Secret Ravine corridor for Recreation-Conservation (R-C) use. Currently, the majority of this area is undeveloped. Land in this area is privately owned, and not available for public recreation.

3.11.2 Impacts

The proposed project would not require the acquisition of any land from these recreational uses. The project would not result in any changes in access to these properties. No appreciable impacts would occur in the form of altered visual landscape or increased traffic noise.

Project construction would require temporary closure of the proposed Sculpture Park to Harding Boulevard Bikeway. Existing Class II bikeways (bicycle lanes) provide access to destinations that would be served by the proposed Miner's Ravine Bikeway. Specifically, bicycle lanes exist along Lead Hill Boulevard, Eureka Road, Sunrise Avenue, and Harding Boulevard. The proposed bikeway would connect Eureka Road to Harding Boulevard in the area between Lead Hill Boulevard and Sunrise Avenue.

3.12 Land Use, Planning, and Growth

Population projections for the project area are discussed in Section 3.16.1.

3.12.1 Affected Environment

Roseville Land Use

I-80 runs through Roseville's Infill Area roughly southwest to northeast. Major arterial crossing or intersecting with I-80 in the project area is, from south to north: Cirby Way, Douglas Boulevard, Atlantic Street/Eureka Road, Roseville Parkway, and State Route 65 (SR 65), which terminates at I-80. Sunrise Avenue runs parallel and adjacent to I-80's southeastern edge roughly between Douglas Boulevard and Roseville Parkway.

Land use in the I-80 corridor south of Douglas Boulevard is a mixture of residential, community commercial, business professional, and public/quasi-public uses. There is a concentration of business professional use on the southeast side of I-80 north of Coloma Way and south of Douglas Boulevard. This area is characterized by a cluster

of medical offices. Northwest of Douglas Boulevard along the I-80 corridor there is no land designated for residential use. There are large areas of open space, community commercial, regional commercial, and business professional use.

Rocklin Land Use

Land use in the City of Rocklin adjacent to the project area is a mixture of medium to medium-high density residential, low density residential, recreation/conservation, and public/quasi-public (Rocklin Cemetery). The medium density residential area to the north of I-80 in the project area is known as Woodside. The Secret Ravine-Sierra Bluffs community is located south of I-80 in this area.

Placer County Land Use

The *Placer County General Plan* governs unincorporated portions of Placer County. Within the County, large amounts of land are designated for Timberland (56 percent) and Agricultural (15 percent) uses. The amount of land designated for low density/rural residential development is less than four percent. Owing to the County's size, this equates to an area larger than that of Roseville and Rocklin combined.

Consistency with Planning Goals and Policies

Placer County Transportation Planning Agency

The proposed project is included in the list of projects in the Placer County Transportation Planning Agency's *2022 Regional Transportation Plan* (RTP).

City of Roseville General Plan

HOV lanes are consistent with the General Plan policies of the City of Roseville. The City of Roseville has a Transportation Systems Management Ordinance with the goals to 1) reduce travel demand on the City's roadway system; and 2) reduce total vehicle emissions in the City of Roseville and the South Placer County region. Circulation Element Policy 2, Implementation Measure 4 (Interagency Coordination) states that the City will work with the Placer County Transportation Commission and the Placer County Air Pollution Control District to develop and implement traffic control measures (TMCs) that meet the goals and standards of the Placer County Congestion Management Program, the Placer County Air Quality Attainment

Program, and the Air Quality Element of the General Plan (1992). In the City's Air Quality Element, the following policy and implementation measures apply:

> *Policy 5*: Develop transportation systems that minimize vehicle delay and air pollution
>
> *Implementation Measure 7 (Mitigation Strategies – Motor Vehicles)*: Consider high occupancy vehicle lanes in street and highway widening and new construction projects for arterials and wider rights-of-way.[1]

City of Rocklin General Plan

The City of Rocklin's General Plan Circulation Element contains the following goal: "To provide and maintain a safe and efficient system of streets, highways, and public transportation to meet community needs and promote sound land use." In support of this goal, the Circulation Element contains twenty-six policies. Of these, the following is the most directly applicable to the proposed project:

> To support and encourage improvements to the existing State highway system and new routes that benefit the City of Rocklin.[2]

All of the proposed projects build alternatives may be considered improvements to the State highway system that would benefit the City of Rocklin. All of the build alternatives would provide a benefit in the form of improvements in accessibility.

Placer County General Plan

The Transportation and Circulation Element of the Placer County General Plan contains policies that are directly applicable to the proposed project.

Policy 3.A.16 states that "Placer County shall recommend that a ramp-metering program for the I-80 corridor between Auburn and the Sacramento County line be included in the next Regional Transportation Plan (RTP) prepared by the Placer County Transportation Planning Commission (PCTC)."[3]

All of the proposed build alternatives would include ramp meters at all freeway on ramps, making all build alternatives consistent with Policy 3.A.16.

[1] City of Roseville General Plan Air Quality Element, page 12.
[2] City of Rocklin General Plan Circulation Element, pages 79 and 80.
[3] Placer County General Plan Transportation and Circulation Element, page 99.

3.12.2 Permanent Impacts

Acquisition of vacant parcels

The proposed project would require the partial acquisition (30 foot strip) of privately owned right of way near the Lead Hill Boulevard over crossing of Interstate 80 in Roseville. The three parcels that would be partially acquired (30-foot strip) are vacant and zoned for commercial use. They are located south of I-80 with access along North Sunrise Avenue.

Table 8 - Properties to be Partially Acquired

SIZE	LAND USE	ACQUISITION
6 acres	Vacant / Community Commercial	30 feet
6.9 acres	Vacant / Community Commercial	30 feet
11.3 acres	Vacant / Community Commercial	30 feet

The City of Roseville General Plan Land Use Map identifies the land use in this area as Community Commercial. Currently these parcels are undeveloped.

These three parcels as shown on Table 8 are located in a developable corridor along Interstate 80, adjacent to a shopping center that includes several large retailers. The partial acquisition of the three parcels in question would not affect the use of these parcels as commercial properties. The owners of these properties would be reimbursed for the cost of their land at market value.

The proposed project would not otherwise encroach upon privately owned land. The project would not alter land use patterns in this area.

Growth Inducement

Growth inducement is defined as the relationship between the proposed transportation project and growth within the project area. A traditional shorthand way of looking at growth inducement is as the removal of obstacles to growth, and is specified as such in the CEQA *Guidelines*. To the extent that a capacity increasing project removes obstacles to growth, it may be considered growth inducing. In the project area, however, existing congestion within the project area does not appear to be a

constraint to growth. The project area's characteristics make it a favorable area for growth, with or without the proposed project.

Growth and Congestion

The proposed project is designed to relieve existing congestion along I-80 within the project limits. The Traffic Analysis Report prepared for this project indicates that, in 1999, the Level of Service (LOS) within the majority of the project area during the morning westbound commute and the evening eastbound commute was "F", indicating that the roadway is at capacity and is no longer allowing stable vehicle movement during peak hours.

The proposed project is included in the Placer County Transportation Agency's *2022 Regional Transportation Plan*. The Final Environmental Impact Report prepared for this plan states that the population of Placer County is expected to increase by 75 percent. This report goes on to say that, "This anticipated growth is projected to occur without the addition of the projects included in the RTP."[4]

Local and regional planning documents for southern Placer County are based around assumptions of substantial population growth over the next twenty years. The population projections prepared by SACOG as part of the 1999 *Metropolitan Transportation Plan* (MTP) for Placer County indicated levels of growth consistent with those shown in Table 19. These projections were developed prior to the inclusion of the proposed project in the MTP. The proposed project has been developed in response to the presently congested conditions along I-80 and the projected increases in development in Placer County and throughout this region.

Discussions with planners representing Roseville, Rocklin, and Placer County have indicated that changes in development patterns in Placer County are extremely unlikely to occur as a result of the proposed project.

Recent Trends

Regional employment data indicate that large numbers of workers in Placer County utilize I-80 to reach employment in Sacramento County, and that this trend will continue. Data also shows that over the past three years, increasing congestion on I-80 has not affected the pace of development in Placer County.

[4] PCTPA, *Final Environmental Impact Report – 2022 RTP*. September 2001. Chapter 5, page 1.

The Traffic Analysis Report indicates that peak hour LOS through the project area in 1999 varied between "E" and "F", with "F" predominating in the segments west of the Atlantic / Eureka Road interchange.

In the period from 1999 to 2001, the population of the City of Roseville increased by seven percent. Between January 1999 and January 2001, Rocklin's population increased eighteen percent.

Table 9 - Recent Population Increases in the Project Area

Area	1/1/99	1/1/00	1/1/01	Percent Change 1/99 to 1/01
Rocklin	32,650	36,000	38,634	18.3%
Roseville	77,300	80,100	83,002	7.4%
Placer County	240,400	248,700	257,511	7.1%

Source: Department of Finance Official State Estimates

The result of not improving this segment of freeway with the proposed project would not be a reduction in the pace of growth in Placer County. While LOS "F" results in longer driving times as a result of reduced driving speed and frequent breakdowns in the flow of traffic, traffic will continue to utilize a congested roadway.

None of the proposed alternatives would have a growth-inducing impact on the study area or its surrounding communities. City and regional plans indicate that this portion of Placer County is prepared for relatively rapid growth in the near future, and the most current data indicate that this growth is occurring and will continue to occur according to locally planned buildout with or without the proposed project.

3.12.3 Summation

The proposed projects support the existing pattern of development in this region.

The projects proposed for this area would have the effect of improving accessibility between the region's employment center – the City of Sacramento – and the largely residential areas in southwestern Placer County, particularly during commuting periods. Based on existing development trends, the net result would not be the elimination of a barrier to development; Placer County was the fastest growing county in California in 2001, according to the California Department of Finance.[5]

[5] California Department of Finance, "Table E-2: County Population Estimates and Components of Change, 2000-01, with Historical Estimates, 1990-2000." January 2002.

These projects are being proposed, in part, to compensate for the rapid growth that has already occurred and is currently occurring in this area.

3.13 Community Impacts (Social, Economic) and Environmental Justice

3.13.1 Affected Environment

Population

As seen in Table 9, the City of Rocklin's population in 2001 was over 38,000. Roseville's population in 2001 was approaching 83,000 residents and Placer County's population exceeded 257,000.

Population Projections

Roseville

The City of Roseville's *General Plan* (1992) projected that growth rates for the City between 1990 and 2010 would fall somewhere between the average annual growth experienced between 1970 and 1990 (4.59 percent) and the higher rate of growth experienced in the 1980s (8.59 percent). Based on these estimates, the General Plan states that "Roseville will likely experience buildout of its residential land use allocation prior to the year 2005…."[6]

The General Plan allows for additional future expansion. It states that "Although the General Plan does not grant additional land use allocations, it does recognize the potential that the City may determine the need or desire to expand in the future."[7]

Rocklin

The City of Rocklin is currently in the process of preparing a revised General Plan. This plan will address future population growth, which is expected to continue at a rapid rate.

SACOG Regional Projections

[6] *City of Roseville General Plan Land Use Element*, page II-10.
[7] Ibid. Page II-45.

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six county Sacramento region (including city and county governments in El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba Counties). As part of its mission of coordinating transportation planning and funding for this region, SACOG prepares population projections for the counties and cities in this region.

SACOG anticipates that the region's population will increase by 930,000 residents between the years 2000 and 2025. Table 10 shows projected population increases for Placer County and the incorporated cities in the County. Nearly twenty percent of the growth in the SACOG region is projected for this County.

The City of Rocklin's population is expected to increase by eighty-seven percent between 2000 and 2025, reaching 70,000 – nearly the current size of Roseville.

These projections show the City of Roseville reaching its maximum population, 109,600, in 2010 and not increasing beyond this mark within the projection period. This reflects the fact that areas covered by currently adopted specific plans will soon be built out.

Table 10 - SACOG Population Projections by Jurisdiction for Placer County

	2000	2005	2010	2015	2020	2022	2025	Net Increase	Percent Growth
ROCKLIN	37,670	44,100	50,700	58,470	64,870	67,320	70,490	32,820	87%
ROSEVILLE	79,560	100,000	109,610	109,460	109,360	109,160	109,160	29,600	37%
LINCOLN	12,900	26,060	38,350	54,370	56,575	57,200	57,875	44,975	349%
LOOMIS	6,075	6,770	8,400	9,310	9,830	10,040	10,360	4,285	71%
UNINC. PLACER COUNTY[8]	87,410	100,890	114,040	127,080	137,240	141,360	147,280	59,870	68%
PLACER COUNTY	237,145	292,640	336,805	376,240	396,785	404,580	415,335	178,190	75%

Source: Sacramento Area Council of Governments, March 2001

[8] SACOG population data does not include the Tahoe Basin portion of Placer County.

Age of Residents

Data from the 2000 US Census shows that the median age for California in 2000 was 33.3 years, younger than the median age in Rocklin (34.5 years), Roseville (36.4 years), or Placer County (38 years).

Race / Ethnicity

Table 11 shows the racial composition of the populations of Roseville, Rocklin, and Placer County in comparison with that of California. The cities in the project area and Placer County as a whole are less racially diverse than California. The proportion of people identifying themselves as "white", only, was between 86 and 89 percent in Rocklin, Roseville, and Placer County, while the proportion in California was 60 percent. Table 12 shows the numbers and proportions of Rocklin, Roseville, Placer County, and California residents identifying themselves as Hispanic or Latino. As with race, the proportion of Hispanics (of any race) is lower in the cities examined and in Placer County than in California as a whole.

In the fifteen US Census tracts closest to the project area in the year 2000, the proportion of residents identifying themselves as white ranged from between 72 percent to 91 percent.

Table 11 - Project Area Racial Composition

	City of Rocklin		City of Roseville		Placer County		CA
RACE	Number	Percent	Number	Percent	Number	Percent	Percent
One race	34,988	96.3	77,102	96.5	240,418	96.8	95.3
White	32,086	88.3	68,756	86	220,053	88.6	59.5
Black or African American	330	0.9	1,047	1.3	2,031	0.8	6.7
American Indian and Alaska Native	291	0.8	559	0.7	2,199	0.9	1
Asian	1,510	4.2	3,442	4.3	7,317	2.9	10.9
Native Hawaiian / Pacific Islander	70	0.2	157	0.2	386	0.2	0.3
Some other race	701	1.9	3,141	3.9	8,432	3.4	16.8
Two or more races	1,342	3.7	2,819	3.5	7,981	3.2	4.7

Source: 2000 U.S. Census

Table 12 - Project Area Hispanic or Latino Population

	City of Rocklin		City of Roseville		Placer County		CA
HISPANIC OR LATINO AND RACE	Number	Percent	Number	Percent	Number	Percent	Percent
Total population	36,330	100	79,921	100	248,399	100	100
Hispanic or Latino	2,874	7.9	9,225	11.5	24,019	9.7	32.4
Not Hispanic or Latino	33,456	92.1	70,696	88.5	224,380	90.3	67.6

Source: 2000 U.S. Census

Income and Poverty

The *Placer County Economic and Demographic Profile 2001* (*Profile)* provides income data for Placer County and its largest cities for the year 2001, and provides comparisons with other counties in the region. Table 13 shows 1990 Census income indicator data with corresponding 2001 data from the *Profile* for Placer and Sacramento Counties, and for the cities of Roseville and Rocklin. This table also presents the proportion of residents below the poverty level in 1990.

These data show that median household income increased by more than half in Placer County, and by more than sixty percent in the cities of Roseville and Rocklin between 1990 and 2001. Per capita income increased by sixty-five percent in Rocklin, seventy-eight percent in Roseville, and seventy-two percent in Placer County in this period. Income indicators within Sacramento County also rose between 1990 and 2001, but at a slower rate than within Placer County.

Table 13 - Project Area Income and Poverty Data

	Rocklin		Roseville		Placer County		Sacramento County	
Year	1990	2001	1990	2001	1990	2001	1990	2001
Median Household Income	$40,417	$67,210	$39,975	$64,244	$37,601	$58,573	$35,798	$46,230
Percent Change	66%		61%		56%		29%	
Per Capita Income	$17,729	$29,278	$17,430	$31,049	$17,311	$29,691	$15,265	$22,870
Percent Change	65%		78%		72%		50%	
Percent Below Poverty (1990)	5.6%		6.8%		7.1%		12.5%	

Source: 1990 US Census

3.13.2 Impacts

Title VI and Environmental Justice

This project has been developed in accordance with the Civil Rights Act of 1964, as amended, and Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order requires Caltrans, as a recipient of federal highway funding, to take the appropriate and necessary steps to identify and address 'disproportionately high and adverse' effects of federal projects on minority and low-income populations.

No minority or low-income populations have been identified within the project limits.

Increased noise levels resulting from the proposed project may affect residents adjacent to the proposed project. However, this noise increase would affect all residents along the project corridor similarly.

No disproportionately high and adverse impacts will occur to minority or low-income populations as a result of the proposed project.

Property Values

Property values in Placer County are unlikely to be significantly affected by the proposed project and have generally been increasing in recent years. No transportation improvement is likely to have a significant impact on this trend. However, given the projections prepared for this project, general qualitative statements can be made about the proposed alternatives' impacts on property values.

Alternatives 1, 2, and 3 would have a positive impact on property values adjacent to the proposed project by reducing noise levels and improving accessibility to this area.

The No-Build Alternative would result in no improvements to accessibility and no changes in existing noise levels. Increasing travel times through the project area equate to reduced accessibility, which would have some negative impact on property values.

Local Tax Revenue

The proposed project would require minor private property acquisition in the City of Roseville. The parcels in question would amount to less than 25 acres of vacant commercial property, if all three parcels were wholly acquired (complete acquisition

is unlikely). This would not constitute a significant impact on the City of Roseville's property tax base.

Regional Economic Impacts

To the extent that the proposed project's alternatives would increase accessibility within the project corridor, the proposed project would result in a timesaving for workers travelling to their jobs, particularly during the busiest commuting hours of the day.

Alternatives 1 and 3, which would result in marginal improvements to LOS in the project area during peak hours, would not have perceptible impacts on the regional economy.

Alternative 2 would allow workers in high-occupancy vehicles to travel through the project area without severe congestion during peak hours. This equates to savings in travel times that can be perceived as an economic gain for workers.

No-Build Alternative would not result in any improvements to the flow of traffic within the project area, which currently experiences frequent breakdowns in flow during peak hours. This alternative would continue the existing trend toward long commutes during peak periods within the project area portion of I-80. While this would not have a significant adverse impact on the regional economy, greater commute times within a fixed distance generally equate to losses in leisure time and/or time spent at work.

Construction Phase Impacts

Soundwall Relocations

Existing sound walls would be relocated in some areas in order to provide required lane widths. This would involve work in areas in close proximity to existing residences.

Ramp Closures

Ramp closures would be avoided during the construction of the proposed project's build alternatives. No freeway on or off ramps would be closed for more than ten days; in order to avoid the economic impacts often associated with extended ramp

closures. Ramp closures lasting less than ten days would not be expected to have significant social or economic impacts.

Long-term Impacts

Travel Times

Quantitative data are not available to indicate what the resulting travel time would be during peak hour between origins and destinations in Placer and Sacramento Counties. The cumulative impact of the proposed projects – particularly the capacity increasing projects on I-80 and the Lincoln Bypass on SR65 – would be to reduce travel times for all vehicles utilizing this freeway network. This is likely to be a benefit to residents of this region.

Transit

Alternative 2

Alternative 2 would have a significant positive impact on transit travel times between Roseville/Rocklin and Sacramento. The cumulative impact would be an HOV corridor from southwestern Placer County to Longview Drive in Sacramento County. Because mass transit vehicles can use HOV lanes, the result would be a substantial improvement in travel times for buses. This would be likely to be a benefit to residents of this region.

Property Values

Given a decrease in travel times between Placer County and Sacramento, the proposed projects would also be likely to have a positive impact on property values throughout Placer County. Both residential and employment-generating uses would be more accessible during peak commuting hours. Improvements in accessibility would be likely to translate into increased property values. This would be likely to be a benefit to residents of this region.

3.14 Utilities/Emergency Services

3.14.1 Affected Environment

The most impacts occur where right of way is acquired. For this project, the area proposed for acquisition is south of I-80 between Douglas Blvd. eastbound onramp

and the Lead Hill Blvd. Overcrossing; a thirty-foot wide plus area strip is considered for acquisition. Within this area are utilities including water mains, water valves, overhead power lines, and telephone lines. If the maximum acquisition is selected, relocation of the power lines and valves will be necessary.

Other areas where utilities are affected are locations where service is provided to power the luminaries, overhead signs, and irrigation. Because of the widening, many of the roadside luminaries will be relocated further away from the travel way. It is expected over 50 luminaries will be relocated. Over eight overhead sign structures will be relocated as well. Their relocation will not require establishment of new service, but essentially rewiring of the electrical features.

New electrical services will be provided for the Traffic Operations Systems elements. Power for those locations will be drawn from existing power lines.

3.14.2 Impacts

For the right of way acquisition area, a minimum of four water valves will be relocated or raised. Up to nine overhead power lines will be relocated. The rest of the utilities may be left in place if underground and an embankment area is chosen for the new right of way.

For the right of way area, during construction, relocation of the valves and the power lines may involve temporary disconnection of power or water for those particular utilities. Usually, the disruption may be bypassed and inconvenience minimized when performed during low demand days and times. The construction of the freeway features will be completed after completion of the right of way relocations.

3.14.3 Mitigation Measures

Caltrans will coordinate with utilities to minimize power or water is disruption. If households are disrupted, utilities will be reminded to notify the households in advance.

3.15 Traffic Transportation/Pedestrian and Bicycle Facilities

Interstate 80 (I-80) is a major east-west route that extends from the San Francisco Bay area through Sacramento to the Nevada State line and continues to the East Coast. I-80 is designated as part of the National Network for large commercial vehicles and

serves cross-country travel, recreational traffic to and from the Lake Tahoe region, as well as daily commuter traffic within the greater Sacramento urban area.

Between 1993 and 2000, monitoring of traffic conditions during the peak commute periods has shown a steady increase in the amount and duration of congestion, typically extending from west to east. To address this growing problem of traffic congestion and to maintain mobility and trip reliability, it is proposed that additional through lanes be added to the freeway from approximately the Sacramento/ Placer County Line to 0.5 mi. east of Route 65.

3.15.1 Affected Environment

I-80 within the limits of this study (see Location Map- Attachment 1) is a six lane divided freeway with sections of auxiliary lanes between interchanges. The freeway is divided by a continuous metal beam or concrete median barrier. Inside and outside shoulders typically measure 2.0-3.0 m (8-10 ft.).

Following are traffic volume counts provided by the District 3 Traffic Census Branch. Annual Average Daily Traffic volumes (both directions of travel) are shown for each location and by year. The total volume distribution can be considered as 50% in each direction throughout the non-commute hours. However, during the peak AM and PM commute times, the traffic volumes are generally greater in the peak direction.

Table 14 - Mainline Volumes

Location	AADT				
	1996	1997	1998	1999	2000
Sac./ Pla. Co. Line to Riverside I/C	131,000	133,000	137,000	145,000	151,000
Riverside I/C to Douglas I/C	121,000	124,000	128,000	138,000	145,000
Douglas I/C to Taylor	120,000	124,000	127,000	138,000	148,000
Taylor Rd. to SR 65	102,000	106,000	109,000	116,000	138,000

AADT *– Annual Average Daily Traffic*
Source *– 2000 Traffic Volumes on California State Highways – a Caltrans Publication*

Existing 1999 traffic volumes were obtained by District 3 Traffic Operations, Sacramento for the study area in both directions. These counts will be used to input into the selected traffic simulation model. Future demand volumes were generated by Office of Travel Forecasting, Caltrans-District 3 for the years 2006, 2016, and 2026, using the Sacramento Metropolitan Area (SACMET) planning model. This planning model uses expected land use input provided by the Sacramento Area Council of Governments (SACOG) to project future volumes on the freeway system and local streets.

Capacity is defined as the maximum amount of traffic that can be accommodated by a uniform segment of freeway under prevailing conditions. If the vehicular demand exceeds this capacity, then the vehicle density will increase and speeds will drop until breakdown occurs and queuing and congestion occurs. For a typical freeway, 2200 vehicles per hour per lane is used for capacity, while the number of vehicles able to use an HOV lane is assumed to be 1800 vehicles per hour. Field observations have shown a capacity of about 2000 vph (before traffic breakdown) in the subject area. For this project, actual field traffic counts conducted in 1999 measured the actual capacity of the roadway at approximately 2000 vph per lane prior to breakdown.

Existing congestion and speed data was collected via "tachometer (tach) runs" during the morning and evening peak periods, Tuesday through Thursday. Runs were conducted during non-holiday weeks in the spring (March through May) and fall (September through November) while schools were in session. Each tach run involved a two-car team, using the "floating car" method. Each car followed the other starting at intervals of 15 minutes. Each tach run is comprised of several trips over the course of the peak period, through a congested area, along a predetermined segment of congestion.

The Fall 2001 Congestion Report, prepared by District 3 Traffic Operations, Sacramento, identifies the limits and duration of congestion for the I-80 corridor. The definition of recurrent congestion, which occurs regularly each weekday, is when speeds drop below 35 mph for over 15 minutes. This does not include congestion that is caused due to incidents or events.

Westbound - Results from the report show that the typical westbound (a.m.) commute experiences recurrent congestion from Madison Ave. to the Atlantic St. interchange (6:15 – 8:45). The average amount of congestion has increased from 419,000 vehicle-hours per year in Fall 2000 to 765,000 vehicle-hours per year in Fall 2001. Congestion monitoring during 2001 showed the average speed during the peak period to be 23.8 mph along this congested segment of I-80. During the evening peak period, tach runs were also conducted in the westbound direction during the fall of 2001. As in 2000, traffic congestion was observed between west of Douglas Blvd. and west of State Route 65 interchanges (4:15 – 5:30).

Without any highway improvements in this area, anticipated growth in the future is expected to push the limits of the westbound congestion further east beyond the limits of existing congestion.

Eastbound - In 2001, during the evening peak period, recurrent congestion on I-80 in the eastbound direction has been observed within the limits of Greenback lane and the Douglas Blvd. interchanges (4:15 – 5:30). The average amount of congestion has increased form 9,000 vehicle-hours per year in fall 2000 to 40,000 vehicle-hours per year in fall 2001. Congestion monitoring during 2001 showed the average speed during the peak period to be as low as 23 mph along this congested segment of I-80. In 2001, for the first time, minor traffic delay was observed and recorded in the eastbound direction during the AM peak period between east of Riverside Ave. to the Douglas Blvd. interchange (6:45 – 8:15).

Table 15 - Accident Rate Summary (4/1/1998 to 3/31/2001)

Dir.	Location	Actual Accident Rate			Average Accident Rate		
		Fatal	F+I**	Total	Fatal	F+I**	Total
WB	Sac/ Placer Co Line to 0.5 mi. east of Route 65	0.003	0.19	0.60	0.006	0.31	1.00
	Sac/ Placer Co Line to Douglas Blvd.	0.000	0.19	0.56	0.006	0.33	1.07
	Douglas Bl. To Taylor Rd.	0.000	0.22	0.93	0.005	0.29	0.94
	Taylor Rd. to Route 65	0.000	0.21	0.39	0.006	0.33	1.08
EB	Sac/ Placer Co Line to 0.5 mi. east of Route 65	0.003	0.11	0.40	0.006	0.31	1.00
	Sac/ Placer Co Line to Douglas Blvd.	0.000	0.17	0.59	0.006	0.33	1.07
	Douglas Bl. To Taylor Rd.	0.000	0.07	0.28	0.005	0.29	0.94
	Taylor Rd. to Route 65	0.000	0.09	0.50	0.006	0.33	1.08

Note – All rates are in accidents/million vehicle miles (acc./mvm)
***F+I – Fatal + Injury; Total includes all reported accidents*

Within the accident summary limits, the eastbound direction experienced 157 (40%) of 234 accidents in the westbound direction with 1 fatality, representing (60%) of the 391 total accidents over the three-year period reported, with 1 fatality. There were total. When compared to the statewide average for similar facilities, both directions of this section of I-80 experienced accident rates that were lower in all of the categories, including the fatal and fatal + injury accident rates. In the westbound direction, 57% of the total westbound accidents reported for the three year period were rear end type collisions, 20% were hit object and 15% sideswipe.

In the eastbound direction, 43% of the total eastbound accidents were rear end type collisions, 29% were hit object, and 22% sideswipe. This would indicate that slowdowns, lane changing and congestion were the main cause of accidents within the project area. Therefore, it is expected that this project will reduce congestion and

contribute to a decrease in delays and lower overall accident rates. The table shown below summarizes the accidents over the past three years in the project study area.

3.15.2 Detailed Analysis

Westbound Direction (AM)

The following table summarizes the Paramics results for the westbound peak period (6:00-9:00 am) for years 1999, 2006, 2016 and 2026. Data in the following tables were deduced from Paramics Analyser module.

Table 16 - Westbound (AM) Peak Hour Results

Year	Alternative/ Location	East of SR 65		SR 65 to Taylor		Taylor to Atlantic		Atlantic to Douglas		Douglas to Riverside	
		S	V	S	V	S	V	S	V	S	V
1999	Existing	50	5120	35	5500	27	7170	20	6055	44	7005
2006	No-build	40	5350	35	6300	35	6615	28	6335	45	6735
	Auxi-RMs	40	5450	42	6480	28	6755	35	6390	42	6830
	HOV	60	6235	40	7065	45	7600	55	7365	60	7900
	MF	45	6055	20	6510	30	6975	25	6430	34	6730
2016	No-build	40	5150	25	5815	25	6040	35	6045	45	6620
	Auxi-RMs	45	6015	25	5895	40	6435	42	6470	47	7000
	HOV	50	6670	25	7155	41	7830	50	7355	55	7960
	MF	40	6300	25	6900	25	7275	20	6475	35	6645
2026	No-build	27	5250	20	5600	20	6210	25	6245	43	6650
	Auxi-RMs	37	5950	26	6300	35	6800	40	6185	45	6675
	HOV	45	6885	25	7565	35	8115	40	7405	55	7960
	MF	40	6585	20	6795	25	7545	25	6285	35	6700

S *– speed in mph;* ***V*** *– volume in vehicles per hour;*

Table 17 - Westbound (AM) Peak Hour LOS

Year	Alternative/ Location	East of SR 65	SR 65 to Taylor	Taylor to Atlantic	Atlantic to Douglas	Douglas to Riverside
1999	Existing	F	E	F	F	F
2006	No-build	F	E	F	F	F
	Auxi-RMs	F	E	F	F	F
	HOV	A/E	A/E	B/E	B/F	B/F

	MF	E	E	E	F	F
2016	No-build	F	F	F	F	F
	Auxi-RMs	F	E	F	F	F
	HOV	A/F	A/E	B/E	B/F	B/F
	MF	F	E	E	F	F
2026	No-build	F	F	F	F	F
	Auxi-RMs	F	F	F	F	F
	HOV	B/F	B/E	C/E	C/F	C/F
	MF	F	E	E	F	F

Notes: *1. LOS values are based on Highway Capacity Manual (HCM 2000) methodology.*
2. In the HOV alternative, X / X :: LOS (HOV lane only) / LOS (all lanes including HOV)

Existing Conditions – Year 1999

Results show that the typical westbound (a.m.) commuter experiences recurrent congestion from Madison Ave. to the Sacramento/ Placer County Line (near the Auburn/ Riverside Interchange, post-mile 18.0). Congestion monitoring during 1999 showed the average speed during the peak period to be 25.4 mph along this segment of I-80. Field runs made in year 2001 showed stop & go conditions and dense traffic conditions between Atlantic and Riverside Blvd. Much of the observed speeds wavered below 35 mph. The calibrated model approximates these observed conditions.

The table above shows output results (by freeway section) generated by Paramics simulation runs, and their Levels of Services (LOS). The data in the table for 1999 are from the calibrated model and closely matches what was observed on field.

No-Build Scenario

The No-Build scenario retains the existing geometrical conditions for the future years but includes improvements associated with projects listed under "Other Projects".

In the WB direction, Paramics simulation for the no-build alternative in year 2006 resulted in an average speed ranging between 28 and 45 mph in the various WB mainline sections. The no-build alternative in year 2016 resulted in an average speed ranging between 25 and 45 mph while in 2026 the speeds ranged between 20 mph and 43 mph.

Mainline volumes getting through the various sections during the future years either lowered or remained the same from 2006 to 2026 because of recurring congestion. It

should be noted here that the demand volumes for the no-build scenarios increased from 2006 to 2026. Thus a lowering of mainline volumes equates to an unmet demand in subject highway network rising from 2006 through 2026 indicating a lack of adequate capacity in the no-build alternatives. LOSs for the no-build alternatives are at F, and reflect potential operational failure

Build Alternative 1

The mixed flow alternative (which includes all of the features under the Auxi-RMs alternative) entails construction of an additional mainline lane on the median side between the project limits. This additional lane would be unrestricted and would require special treatment in the WB direction at the connection to the planned HOV lane between Longview and Sac./Pla. Co. line on I-80.

A notable difference between this alternative and the previous two alternatives, is the significant increase in projected demand that forms the input to Paramics simulation. Additional capacity available in a highway network typically creates an increased demand.

In the WB direction, Paramics simulation for mixed flow lane alternative in year 2006 resulted in average speeds ranging between 20 and 35 mph. In 2016, and 2026, the average speeds range similarly suggesting that this alternative does not improve much over the future years. The volumes getting through the various freeway sections are higher than the no-build alternatives given the additional capacity. However, the low speeds and unmet demands at the entry suggest that providing additional capacity does not mitigate congestion in the project area. Some mainline section LOSs improve to E over the years but not much other improvement else is seen. It should be noted that LOS E could operate at high speeds but the potential for breakdown is high with even a minimal traffic hazard.

Build Alternative 2

HOV lane alternative (which includes all of the features under the Auxi-RMs alternative) entails construction of an additional mainline lane on the median side between the project limits. This additional lane would be restricted to multiple occupant vehicles (2+), clean-air vehicles, buses, and motorcycles. In the WB direction this additional lane would connect to the planned HOV lane between Longview and Sac./Pla. Co. line on I-80.

Again, a notable difference between this alternative and the previous alternatives, is the significant difference in projected demand that forms the input to Paramics simulation. The demands for HOV lane alternatives over the future years are comparable to the mixed flow alternatives (albeit different in sections) while significantly different from the other alternatives per the SACMET planning model developed by SACOG.

In the WB direction, Paramics simulation for HOV lane alternative in year 2006 resulted in average speeds ranging between 40 and 60+ mph. In 2016, and 2026, the average speeds range between 25 and 60+, and 21 and 60+, respectively, reflecting an increase in section demand volumes over the future years leading to higher levels of congestion in some sections. The volumes getting through the various freeway sections are substantially higher than the no-build alternatives or the mixed flow alternative indicating lower levels of congestion.

It should be noted that free flow conditions prevail in the HOV lane in all freeway sections, and congestion in an HOV alternative indicates that in the mixed flow lanes adjacent and contiguous to the HOV lane. LOS calculations reflect this as HOV lane LOSs are at A, B, or C (free flow conditions), while the overall LOS for the mainline sections are at E or F. Again, high mainline speeds are possible at LOS E/F levels but potential for break down would be imminent given the small headways between vehicles in the traffic flow.

As Table 20 illustrates, the number of people moved in the HOV alternatives are higher than the other alternatives as well. Occupancy rates used are consistent with data gathered from similar facilities in the Sacramento area.

Build Alternative 3

This alternative retains the geometry of the no-build alternatives and includes ramp meters at Taylor and Atlantic on-ramps (to WB I-80).

In the WB direction, Paramics simulation for Auxi-RMs alternative in year 2006 resulted in average speeds ranging between 28 and 42 mph. In 2016, and 2026, the average speeds range similarly suggesting that this alternative does not improve much over the future years. The demand volumes in this alternative are the same as the no-build alternatives while the volumes getting through the sections shows slight improvement over the no-build alternatives.

Additional ramp metering at significant entry points control volumes entering the mainline sections resulting in slightly better mainline speeds and traffic flow volumes. From a study-area wide perspective, however, the traffic conditions are similar to the no-build scenarios again indicating a lack of adequate mainline capacity as evidenced by LOSs conditions.

Table 18 - People Moved By Alternative (WB AM Peak Hour)

Year	Alternative	HOV Lane Volume	Total People Moved
1999	Existing	n/a	9810
2006	No-build	n/a	9525
	Auxi-RMs	n/a	9650
	HOV	1335	10650
	MF	n/a	9470
2016	No-build	n/a	8275
	Auxi-RMs	n/a	9630
	HOV	1100	9815
	MF	n/a	8305
2026	No-build	n/a	8315
	Auxi-RMs	n/a	8345
	HOV	1600	10515
	MF	n/a	8375

Notes –
1) A representative section of the study area was used for analysis
2) Occupancy rates used –
1.1 – MF lanes only when an adjacent HOV lane is present
2.2 – HOV lane only
1.25 – MF lanes when an adjacent HOV lane is not *present*
3) n/a – not applicable

The no-build and the Auxi-RM alternatives showed lower speeds in most mainline sections of the project area with lower volumes getting through the sections, and increases in unmet demand over the future years. The Auxi-RMs alternatives show a slight improvement in traffic performance (especially near the Atlantic & Taylor interchange areas). The slight improvement can be attributed to installation of on-ramp metering at these interchanges. However, from a study-area wide perspective the performance is similar to that of the no-build scenarios suggesting a need for more capacity.

The mixed-flow alternative shows higher volumes flowing through the various freeway sections compared to either the no-build scenarios or the Auxi-RMs

alternatives. There is no marked improvement in speeds, however, and the simulations show congested sections throughout the study area. Higher volumes getting through the various freeway sections result from availability of higher capacity in all the sections. However, a much higher demand for this alternative results in congested sections, lower speeds, and unmet demands at entry points.

The HOV lane alternative, by far, out performs all other alternatives. The volumes getting through the various freeway sections, mainline speeds, and levels of congestion observed are significantly better compared to any of the previously discussed alternatives. It should also be noted that the HOV lane by itself performs at free flow speeds and has volumes ranging between 1100 and 1600 over the future years. This surpasses the Caltrans HOV Guidelines requirement of a desirable minimum of 800 vehicles per hour (or 1800 persons per hour) in the first year of an HOV lane. Further, this alternative carries more people than any other alternative given the HOV lane restriction for multiple occupancy vehicles which leads to creation of new car-pools, and other modal shifts by the commuting public. HOV lanes also support bus transit, such as Roseville Transit and Placer County Transit by providing a faster and more reliable trip time using the HOV lane.

Eastbound Direction

The following table summarizes Paramics results for the eastbound peak period (3:00-6:00 PM) for years 1999, 2006, 2016 and 2026.

Table 19 - Eastbound (PM) Peak Hour Results

Year	Alternative/ Location	Auburn to Douglas		Douglas to Eureka		Eureka to Taylor		Taylor to SR 65		SR 65 to Rocklin	
		S	V	S	V	S	V	S	V	S	V
1999	Existing	44	5160	35	4060	53	5425	60	5000	62	4745
2006	No-build	28	5115	20	4730	53	5490	58	4835	49	4625
	Auxi-RMs	36	5150	21	4915	52	5540	59	4830	54	4690
	HOV	40	5580	23	4960	61	5560	66	4950	51	4760
	MF	46	5350	24	5085	62	5600	67	4930	52	4755
2016	No-build	20	4900	20	4725	52	5120	52	4730	55	4090
	Auxi-RMs	21	5200	44	4760	51	5330	55	4755	53	4560
	HOV	35	6140	18	5075	49	5550	60	4800	56	4670
	MF	24	5440	19	5315	49	5510	67	5000	48	4980
2026	No-build	19	5355	23	4800	22	5370	25	4820	50	4630
	Auxi-RMs	20	5480	44	4815	51	5455	38	4880	51	4675
	HOV	31	5980	24	5070	55	5550	55	5030	46	4755
	MF	23	5550	18	4995	54	5690	54	4940	47	5115

S *– speed in mph;* ***V*** *– volume in vehicles per hour;*

Table 20 - Eastbound (PM) Peak Hour LOS

Year	Alternative/ Location	Auburn to Douglas	Douglas to Eureka	Eureka to Taylor	Taylor to SR 65	* SR 65 to Rocklin
1999	Existing	F	F	E	E	E
2006	No-build	F	F	E	E	F
	Auxi-RMs	F	F	E	E	F
	HOV	A/F	A/F	A/D	A/D	E
	MF	F	F	E	D	E
2016	No-build	F	F	E	F	F
	Auxi-RMs	F	F	E	E	F
	HOV	B/F	B/F	B/D	A/D	E
	MF	F	F	E	E	F
2026	No-build	F	F	F	F	F
	Auxi-RMs	F	F	E	E	F
	HOV	C/F	C/F	A/D	A/D	E
	MF	F	F	E	F	F

Notes: *1. LOS values are based on Highway Capacity Manual (HCM 2000) methodology.*
2. In the HOV alternative, X / X::LOS (HOV lane only) / LOS (all lanes including HOV lane)
******* *No HOV lane*

No-Build Scenario

This alternative retains geometry as described in Section E. In the EB direction, Paramics simulation for the no-build alternative in year 2006 resulted in an average speed ranging between 21 and 58 mph in the various EB mainline sections. The no-build alternative in year 2016 resulted in an average speed ranging between 20 and 64 mph while in 2026 the speeds ranged between 15 mph and 50 mph.

Mainline volumes getting through the various sections during the future years either lowered or increased the same from 2006 to 2026 because of recurring congestion. It should be noted here that the demand volumes for the no-build scenarios increased from 2006 to 2026. Thus a lowering of mainline volumes equates to an unmet demand in subject highway network rising from 2006 through 2026 indicating a lack of adequate capacity in the no-build alternatives. Level of Service ranged from F / E in 2006 to LOS F in 2026.

Build Alternative 1

The mixed flow alternative entails construction of an additional mainline lane on the median side between the project limits. This additional lane would be unrestricted and would connect directly to the end of the planned HOV lane at the Sac/Placer Co. Line.

A notable difference between this alternative and the previous two alternatives, is the significant increase in projected demand that forms the input to Paramics simulation. This is due to the fact that additional capacity available in a highway network typically creates an increased demand.

In the EB direction, Paramics simulation for mixed flow lane alternative in year 2006 resulted in average speeds ranging between 24 and 67 mph. By 2026, the average speeds decrease to between 18 and 54-mph suggesting that this alternative results in slightly lower speeds over the future years. The volumes getting through the various freeway sections are higher than the no-build alternatives given the additional capacity. However, the low speeds and unmet demands at the entry suggest that providing additional capacity does not mitigate congestion in the project area. Level of Service varied from F / D in 2006 to F / E in 2026.

Build Alternative 2

The HOV lane alternative entails construction of an additional mainline lane on the median side between the project limits. This additional lane would be restricted to multiple occupant vehicles (2+), clean-air vehicles, buses, and motorcycles. In the EB direction this additional lane would connect to the planned HOV lane between Longview and Sac./Pla. Co. line on I-80. Level of Service ranged from F / D (mixed flow) and LOS A (HOV lane) in 2006 to F / D (mixed flow) and C (HOV) in 2026.

Again, a notable difference between this alternative and the previous alternatives, is the significant difference in projected demand that forms the input to Paramics simulation. The demands for HOV lane alternatives over the future years are comparable to the mixed flow alternatives (albeit different in sections) while significantly different from the other alternatives per the SACMET planning model developed by SACOG.

In the EB direction, Paramics simulation for HOV lane alternative in year 2006 resulted in average speeds ranging between 23 and 66 mph. In 2016, and 2026, the average speeds range between 18 and 60 and 24 and 55, respectively, reflecting an increase in section demand volumes over the future years leading to higher levels of congestion in some sections. The volumes getting through the various freeway sections are significantly higher than the no-build alternatives and lower than the mixed flow alternative indicating higher levels of congestion, due to the higher demand volumes input from the SACMET model. It should be noted that free flow conditions prevail in the HOV lane in all freeway sections, and congestion in an HOV alternative is occurring primarily in the mixed flow lanes adjacent and contiguous to the HOV lane.

As the table below illustrates, the number of people moved in the HOV alternatives are higher in 2006 than the No Build and the Auxi-RM alternatives and significantly higher than all the other alternatives in 2016 and 2026. The occupancy rates used are consistent with data gathered from similar facilities in the Sacramento area.

Build Alternative 3

This alternative retains all of the geometry of the no-build alternatives described in Section E, but includes an extension of the #4 eastbound lane from Auburn Blvd. to the Douglas Blvd. off-ramp. Additional ramp meters are also included at the Auburn Blvd. on-ramp and Eureka Rd. on-ramps.

In the EB direction, Paramics simulation for Auxi-RMs alternative in year 2006 resulted in average speeds ranging between 18 and 59 mph. In 2016, and 2026, the average speeds range similarly suggesting that this alternative does not improve much over the future years. The demand volumes in this alternative are the same as the no-build alternatives while the volumes getting through the sections shows slight improvement over the no-build alternatives. Level of Service ranged from F / E in 2006 through 2026.

Additional ramp metering at significant entry points control volumes entering the mainline sections resulting in slightly better mainline speeds and traffic flow volumes. From a study-area wide perspective, however, the traffic conditions are similar to the no-build scenarios again indicating a lack of adequate mainline capacity.

Table 21 - People Moved By Alternative (EB PM Peak Hour)

Year	Alternative	HOV Lane Volume	Total People Moved
1999	Existing	n/a	6450
2006	No-build	n/a	6395
	Auxi-RMs	n/a	6440
	HOV	420	6600
	MF	n/a	6690
2016	No-build	n/a	6125
	Auxi-RMs	n/a	6500
	HOV	740	7570
	MF	n/a	6800
2026	No-build	n/a	6695
	Auxi-RMs	n/a	6850
	HOV	1110	7800
	MF	n/a	6940

Notes –
1) A representative section was used for analysis (Auburn Bl. to Douglas Bl.)
2) Occupancy rates used –
1.1 – MF lanes only when an adjacent HOV lane is present
2.2 – HOV lane only
1.25 – MF lanes when an adjacent HOV lane is not *present*
3) n/a – not applicable

The no-build and the Auxi-RM alternatives showed higher speeds in most mainline sections of the project area, but with much lower volumes getting through the sections, and increases in unmet demand over the future years. With the no-build alternative, the primary bottleneck at Auburn Blvd. remains, and acts as a meter for traffic into the project area.

There is a slight improvement with the Auxi-RM alternative, which can be attributed to the extension of the #4 lane to Douglas Blvd. and the installation of on-ramp metering at these interchanges. However, from a study-area wide perspective the performance is similar to that of the no-build scenarios suggesting a need for more capacity. Hence, these two alternatives are not viable.

The mixed-flow alternative shows higher volumes flowing through the freeway various sections compared to either the no-build scenarios or the Auxi-RMs alternatives, especially in 2016 and 2026. The mixed flow alternative compares very closely in speeds and volumes with the HOV alternative in all years modeled. There is no marked improvement in speeds, however, and the simulations show congested sections through out the study area, especially approaching the interchange areas at Auburn and Douglas Blvd. This congestion can be attributed to very high incoming volumes associated with the added capacity of this alternative and the fact that from 48% to 57% of the volume entering the study section is exiting prior to the end of the section, just east of Hwy 65. In other words, approximately one-half of the incoming traffic west of Auburn Blvd. will be exiting at Auburn, Douglas, Eureka, Taylor and Hwy 65, thus creating a weaving section between these limits. This weaving section results in congested areas near the interchanges, lower speeds, and unmet demands at the entry points.

The HOV lane alternative performs similarly to the mixed-flow alternative in terms of simulation speeds and volumes in all study years, with very similar traffic characteristics, given the high volume of traffic exiting through the study section. The HOV alternative outperforms the no-build and Auxi-RM alternatives in terms of volume of traffic moved, especially in the years 2016 and 2026. One significant advantage that the HOV lane has over all the other alternatives is that it performs at free flow speeds within congested areas and has volumes ranging between 420 and 1,110 vehicles during the p.m. peak hour over the future years (per the Paramics traffic simulation model). The simulation shows that in 2006, the HOV lane usage is less than the Caltrans HOV Guidelines desired minimum of 800 vehicles per hour. By 2016, the HOV lane volume of 740 is very close to the minimum, and by 2026

had exceed the minimum at 1,110 HOV vehicles per hour. Based on field HOV counts and engineering judgement, we would expect higher actual HOV lane usage based on actual 1999 HOV counts taken in the study section which show 1,170 eligible HOV's in the p.m. peak hour. The actual usage of the HOV lane is determined by driver behavior and distance to their destination. Even using the conservative HOV lane volumes from the Paramics simulation, the HOV alternative carries significantly more people than any other alternative both in 2016 and 2026. The HOV alternative encourages creation of new carpools, vanpools, buses, and other modal shifts by the commuting public.

3.15.3 Conclusions of Traffic Analysis

Of all the analyses performed, the HOV lane alternatives showed better results as compared to the other alternatives for all the future project years. Freeway speeds and flow volumes were higher if not comparable to the mixed flow alternative. However, the efficiency of the freeway increases as HOV lanes by themselves operate at superior LOS and provide a dependable, predictable trip for buses, vans and carpools.

Traffic congestion is a problem faced by every urban community. As freeways have become more expensive to build, attention has been given to other ideas for increasing capacity. One alternative to improve the efficiency of the existing highway system is by increasing its people carrying capacity. As part of Transportation System Management programs adopted around the country, HOV lanes offer this possibility.

The authority for establishing HOV lanes is given in Section 25485 of the California Public Resources Code, Section 149 of the Streets and Highways Code, and Section 21655.6 of the California Vehicle Code. Among the many goals of an HOV lane is to improve air quality and reduce congestion. HOV lanes reduce air pollution and mitigate traffic congestion because they move more people in a comparable number of (if not fewer) vehicles than the mixed flow alternative. Results show that the HOV lane would operate under free flow conditions in all study years leading to an overall increase in average speeds. Fuel savings are also realized (again helps reducing emissions of pollutants) in an HOV lane alternative.

Overall, congestion delay on Interstate 80 has significantly increased since 1999 and 2000. This increase could be due to an increase in commercial (new shopping mall) and residential developments along Interstate 80 continuing to northern parts of town

in the Roseville and Rocklin areas. The reduction of mainline lanes from four lanes to three lanes at Douglas Blvd. Interchange has resulted in a "bottleneck" condition that contributes to congestion delay at this segment.

Without any highway improvements in this area, the anticipated growth will put more pressure on the mainline capacity by infusing greater volumes of traffic into this bottleneck area.

I-80 also serves as a principal recreational route between the Sacramento/ Bay area and the Lake Tahoe/ Reno areas. As a result, traffic volumes eastbound on Friday evenings are typically heavier than other "off-peak" periods from Friday through Monday.

There is growing support for HOV lanes because they assure daily, reliable travel times to carpools, vanpools, buses, and other HOV lane users. In addition, the HOV alternative will allow connectivity and consistency with future eastbound lane extensions on I-80. A coordinated approach among all stakeholder agencies is required to make HOV lanes work. These include, but are not limited to, provision of a system-wide network of HOV lanes, and increasing the number of park and ride lots, ride sharing programs, with increased utilization by transit services connections at key transit boarding points.

Safety

A safety study on HOV lanes done by California Polytechnic State University at San Luis Obispo found that HOV facilities had accident experiences that did not differ significantly from mixed-flow highway sections. Accident rates for the similar highway sections compared were almost entirely related to differences in their flow and congestion patterns rather than anything inherent in the geometric or operational characteristics of the HOV facilities themselves. Because most accidents in urban areas are a result of congestion, the HOV lane alternative provides reduction of total vehicle-miles traveled, compared to the no-build alternative, and therefore contributes to lower accident levels within the project limits.

HOV facilities need to be approached as a system with public understanding and support. It appears that commuters are now supporting HOV lanes. Part of this support relates to the realization that HOV facilities make it easier to live and work where people want to and make other discretionary trips. HOV facilities should include a total system of HOV lanes, park-and-ride lots, bus services, ridesharing

programs, and other elements. A coordinated approach is needed to make these systems work. HOV lanes are also being coordinated with the development of light rail transit (LRT), heavy rail, and commuter rail systems. Thus, one key to successful HOV development and operation is coordination among agencies and supporting services.

Project Staging

Constructing lane additions in sections as a part of a staged approach was considered. From a traffic operations standpoint, it is not recommended to widen a shorter section of freeway than the project limits specify. The reasoning is: virtually the entire length of the project falls within a weaving section, with interchanges approximately 1 mile ± from each other and high volumes of weaving traffic during the peak commute hours. Executing a mainline lane drop within this area would create an undue amount of congestion and run contrary to the congestion- reduction goals of the project. In the add-lane alternatives, the project limits are designed to provide a continuous median lane through the weaving area to east of Route 65, before the mainline lane drop occurs. Therefore, a continuous lane through the project limits is recommended.

However, it is possible to consider staging of the project to build one direction at a time, as funding permits. It is recommended building the eastbound direction first, as it would provide more of a benefit to HOVs in the westbound morning commute. One possible Phase 1 scenario could be to construct the eastbound #4 lane extension to Douglas, install all ramp meters, and construct the westbound HOV lane for the entire length of the project. Phase 2 could be to construct the eastbound HOV lane as funds permit.

3.16 Visual/Aesthetics

This section presents the methods and results of an analysis of the effects on visual and scenic resources of the proposed capacity improvement project.

3.16.1 Affected Environment

The region lies in a transitional zone containing both the flat valley floor and the rolling hills of the western slope of the Sierra Nevada. The dominant natural vegetation is annual grassland and native oak trees occurring in varying densities.

Water features in the region include Folsom Lake, Lake Natoma, and the Sacramento and American Rivers. Sacramento, a large urban center, is influencing the rapid development of nearby landscapes. Most major development occurs along the corridors of Interstates 5 and 80.

A mix of agricultural, developed, and natural landscapes characterizes the region. The landscape pattern is influenced by development sprawling from existing cities and major roadways in the region. The region's visual quality is low to moderate in vividness, intactness, and unity. This is also true of the area immediately surrounding the project site.

Development occurs along the preponderance of I-80, which bisects the cities of Roseville and Rocklin and passes through the northern portion of the city of Citrus Heights. Land uses include residential, commercial, light industrial, and public. Development occurs most heavily within city limits and at freeway interchanges.

Rural ranchettes lie to the east and the north. Roadways are prevalent in the project area. Other developed features include the Union Pacific Railroad running parallel to I-80 on the north, utility lines, and electrical towers. Open space consisting of annual grasslands and native oaks is present, especially at the eastern end of the project area.

Cirby Creek, Linda Creek, Dry Creek, and Miner's and Secret Ravines are the primary water features in the project area. The water is not visible from most locations, due to its lowered elevation and the visual obstruction of mature vegetation.

Because of the visual obstructions caused by overhead utility lines and towers, and because of the commonality of the visual character of development in the region, the visual quality of the project area is low to moderate in vividness, intactness, and unity.

3.16.2 Impacts

Within project limits, Interstate 80 is not a designated scenic highway and the project would not damage scenic resources. However, some negative impacts will occur as a result of the proposed project. These include a temporary change in views as a result of construction; potential glare and light impacts; and visual impacts resulting from topography and grade changes, removal of oak trees, and reduction of highway planting areas, which will be paved for the creation of new lanes. These impacts would potentially affect all three-landscape units in the project area.

Permanent changes in light and glare.

Alternative 1

Significant changes in daytime glare are not anticipated for the project. The proposed railings and light standards would be galvanized steel; no reflective surfaces are proposed. The proposed soundwalls, retaining walls, and Type 60 barriers would be masonry and concrete with low sheen and no reflective surfaces. Incorporation of mitigation measure 2a (page 85) would reduce any glare resulting from these walls and barriers to a less-than-significant level.

Additional nighttime lighting has been proposed for the project. The increased lighting would improve safety for night travel, but would also increase the distance from which the interchanges can be seen at night.

Some residences along I-80 may be affected by the highway lighting, depending on where these fixtures are located. In addition, lighting added near open space areas could potentially affect wildlife. Changes in daytime glare and reflectivity from the proposed project would be less than significant with mitigation incorporated. Nighttime light and glare impacts on adjacent residences and open space areas may be significant but potential impacts may be reduced to a less-than-significant level by incorporating mitigation measure 2b (page 85).

Alternative 2

Lighting and glare impacts and mitigation would be the same as those discussed for Alternative 1.

Alternative 3

Lighting impacts would be fewer for Alternative 3 because only three interchanges would be modified, reducing the number of lights added to the interchange areas. In addition, widening would occur in fewer places, further reducing the number of light standards added along the freeway. Visual impact types and mitigation measures for this alternative would be the same as those discussed for Alternative 1.

Permanent visual changes in grade and topography resulting from roadway and bridge widening.

Along the interstate corridor, the existing roadside topography and grades will be functionally and visually affected to accommodate the roadway and bridge widening.

Permanent visual changes resulting from vegetation removal.

Alternative 1

Existing highway landscaping would be removed throughout the project site at widenings and interchanges. Implementation of mitigation measure 3a will reduce impacts resulting from vegetation removal to a less-than-significant level.

The removal of oaks is a potential visual impact. Where possible, trees should be trimmed rather than removed completely.

Mitigation measures 4b and 4c will reduce any potential visual impacts resulting from oak tree replacement to a less-than-significant level. Mitigation measures for revegetation and oak tree replacement should also be coordinated with biological mitigation measures to ensure consistency and avoid duplication of mitigation efforts.

Alternative 2

Visual impacts and mitigation would be the same as described above for Alternative 1.

Alternative 3

General vegetation and oak tree removal impacts would be less than those in Alternatives 1 and 2 because fewer project improvements would occur. Tree removal impacts and mitigation measures would be of the same as those discussed for Alternative 1, although they would be of lesser magnitude.

Permanent changes to views of and from Landscape Unit 1 (Placer County line east)

Alternative 1

Landscape character and views of and from the project area would not substantially change. The vividness, intactness, and unity of this unit would be minimally affected by the proposed project, and the visual quality rating would not change.

Alternative 2

The landscape unit impacts would be similar to those described for Alternative 1. In addition to the proposed improvements in alternative 1, some striping and signage for the HOV lanes would be added along the corridor.

Alternative 3

The landscape unit impacts for this alternative would be less than for Alternatives 1 and 2 because fewer improvements are proposed.

Permanent changes to views of and from Landscape Unit 2 (Douglas Blvd. Area)

Alternative 1

The landscape unit impacts for this alternative would be similar to those described for Landscape Unit 1, Alternative 1. Because the freeway is recessed and because of the greater number of commercial properties adjacent to the freeway in this landscape unit, viewers from vantagepoints may increase along this segment. However, as discussed for Landscape Unit 1, landscape character and views of and from the project area would not substantially change.

Alternative 2

The landscape unit impacts would be the same as those discussed above in Landscape Unit 2, Alternative 1.

Alternative 3

The landscape unit impacts for this alternative would be less than for Alternatives 1 and 2 because fewer improvements are proposed.

Permanent changes to views of and from Landscape Unit 3 (Highway 65 east into City of Rocklin)

Alternative 1

This unit will likely be subject to the greatest visual impact because of the proximity of residences north of I-80 and the prevalence of mature oaks throughout this unit. Users of I-80; adjacent residents; and viewers from vantage points such as the Taylor Road overpass, SR-65 connector, and properties that look onto the project site will be subject to the aesthetic changes of the proposed project.

Views into the project area from adjacent residences to the north will be blocked. Landowners along this segment currently have wooden or a chain-link fence along their property lines which back up to the interstate's right-of-way. These viewers are accustomed to seeing the open space between their property and the expansive freeway beyond. Some residents may also have views of the oak woodland on the south side of I-80. The proposed project would add a 12- to 14-foot soundwall at the property line of these residences.

The soundwall would obstruct views, potentially affect solar exposure, and shorten the existing line of sight. The addition of a soundwall at this location is a potentially significant impact. Visual impacts resulting from the addition of a barrier between these residences and the freeway can be reduced to a less-than-significant level with implementation of the mitigation measure described below.

The vividness would not change because a majority of the oak woodland area that adds to the memorability of the landscape unit would remain intact. However, intactness and unity would each decrease as a result of the addition of soundwalls and the loss of large oaks. While this change in visual quality is not significant, implementation of mitigation measures 4b, 4c, and 7 would mitigate any losses of visual quality caused by the proposed project.

Alternative 2

In this alternative, CHP enforcement areas are proposed east of Taylor Road. No mitigation would be required beyond those described in Alternative 1.

Alternative 3

The proposed improvements for Alternative 3 do not extend into Landscape Unit 3. Therefore, no impacts would result from the proposed project within this landscape unit and visual quality would remain the same.

Figure 4 – Visual Simulation

3.16.3 Mitigation Measures

Permanent changes in light and glare.

Mitigation Measure 2a. Plant barriers and soundwalls to reduce potential daytime glare.

Areas in front of barriers, soundwalls, and center median (where space allows) will be planted with appropriate vegetation to reduce reflective glare. Plant species will be determined by the project Landscape Architect, with coordination from appropriate City jurisdictions.

Mitigation Measure 2b. These mitigation measures reduce the impacts of project lighting.

- Luminaires would be cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light onto adjacent private properties and undeveloped open space. Fixtures that project upward or horizontally should not be used.
- Luminaires would be directed away from habitat and open space areas adjacent to the project site.
- Luminaire lamps would provide good color rendering and natural light qualities. Low- pressure and high-pressure sodium fixtures that are not color corrected should not be used. Luminaire intensity should be the minimum allowable for traffic safety.
- Luminaire mountings would be downcast and the height of the poles minimized to reduce potential for backscatter into the nighttime sky and incidental spillover of light into adjacent private properties and undeveloped open space. Luminaire mountings should have nonglare finishes.

Mitigation Measure 3. Coordinate and implement aesthetic treatments in areas of topography and grade changes.

- For areas containing new retaining walls, the project Engineer and Landscape Architect will coordinate for aesthetic treatment, wall type, and PS&E development.

- For new roadside slope construction (particularly adjacent to the creek and the bridge abutments) and PS&E development, the Landscape Architect will specify appropriate revegetation planting and erosion control measures.

Mitigation Measure 4a. Implement mitigation planting and revegetation for any impacted vegetation and biological habitat areas.

- Mitigation planting and revegetation, where planned, would be implemented to mitigate any affected vegetation and biological habitat areas. Caltrans will consult with the project Landscape Architect and Biologist to design and prepare a mitigation and/or revegetation-planting plan for project PS&E and PA&ED development.
- Mitigation would be implemented for existing trees that are removed or affected. Caltrans will refer to the project biological report for specified mitigation requirements, planting ratios, and policies. Caltrans will coordinate with involved cities as appropriate.

Mitigation Measure 4b. Replace oak trees that are removed as a result of the proposed project.

- Oak trees that are greater than or equal to 6 inches in diameter at breast height (dbh) and that are removed as a result of the proposed project will be replaced at a ratio of one seedling for every 1 inch of tree dbh removed.
- In areas of potential soil erosion, native seeding will also be used to help control erosion.
- Caltrans will coordinate with local agencies as appropriate.

Mitigation Measure 4c. Implement supplemental oak tree planting guidelines in areas of oak tree removal. The species listed have been selected to be compatible with the existing plantings and are required in all areas where oak trees are to be removed.

- The species composition should reflect species that are native and indigenous to the project area. The species list should include trees, shrubs, and a herbaceous understory of varying heights, as well as evergreen and deciduous types. Plant variety will increase the effectiveness of the screen by providing multiple layers, seasonality, more diverse habitat, and reduced susceptibility to disease.

Recommended tree species include valley oak *(Quercus lobata),* blue oak *(Q. douglasii),* and interior live oak *(Q.wislizenii).*

- The planting design should be randomized to mimic natural patterns.
- Vegetation should be planted within the first year following project completion.
- An irrigation and maintenance program should be implemented during the plant establishment period.

Mitigation Measure 7. Implement aesthetic treatments for residents adjacent to proposed soundwalls.

One of the following two mitigation measures will be implemented to reduce aesthetic impacts on affected residents.

1. In locations of potential soundwalls, the project Landscape Architect will coordinate with the City of Rocklin to create aesthetically pleasing designs and treatments that will benefit all parties involved.

2. An earthen berm will be used in place of or in conjunction with the proposed soundwall in some locations. The berm will be planted and maintained by Caltrans. Caltrans will coordinate with the City of Rocklin as appropriate.

3.17 Historical Resources

The project's Area of Potential Effects (APE) contains 23 properties, one of which is formally evaluated in the Historic Architectural Survey Report (HASR). The remaining 22 properties were treated in accordance with the "Caltrans Interim Policy for the Treatment of Buildings Constructed in 1957 or Later".

None of the properties appear to be eligible for the National Register of Historic Places (NRHP). Additionally, Caltrans has evaluated the resources in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act (CEQA) Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and determined that none are historical resources for the purposes of CEQA. Moreover, there does not appear to be the potential for a historic landscape or district in the project area.

3.17.1 Affected Environment

Placer County was created on April 25, 1851, from parts of Sutter and Yuba counties. The county seat was located in the City of Auburn. The name placer is a western American term of Spanish origin for alluvial or glacial deposits containing gold particles, which can be obtained by washing (Gudde 1959:63, Gudde 1998:294). At the time the name was adopted for the county, placer mining was the principal method employed there, and the placers of the region were among the richest in the state (Gudde 1959:64, Gudde 1998:295, Hoover et al. 1990:257).

Outside exploration of the region was first recorded in the early 1800s. This included explorations conducted by Gabriel Moraga between 1806 and 1808, and fur trapping expeditions led by Jed Smith in 1827 and 1828 (City of Roseville 1992:V-28).

The discovery of gold in 1848, brought over 10,000 people to Placer County, with Roseville being established as a railroad town and a local commerce center. Building materials, mining equipment, livestock staples and other major commodities were delivered to the region by railroad. Roseville prospered as a principal railhead that provided the frontier towns with goods and services. By 1954 agricultural and ranching pursuits (fruit, grain and beef stock) had begun in the area.

The pattern of life changed through the 50s and the railroad found competition from the airlines and interstate truckers. In the late 50s, I-80 came through Roseville, Rocklin, Loomis and Auburn, linking South Placer County with the rest of Northern California (Anderson 1993). Folsom Dam was completed in 1955, creating a reservoir about eight miles east of Roseville that provided the city with a dependable domestic water supply as well as an excellent recreational amenity.

By 1963, the 100 year old city was peaceful, self-contained, and embodied the ideal of a small All-American town (Scenic Route to Historic Old Auburn Lake Tahoe). As the turn of the century approached, Roseville had grown into a progressive city with a population of over 70,000 people. With the advent of the 70s and 80s, numerous international corporations relocated there, bringing new technology, opportunities and people into the area.

While Roseville is no longer completely dependent on the railroad, its roots as a "Junction" are as evident today as they were in the last two centuries. The electronics industry is becoming the major employers with both Hewlett Packard and NEC becoming the major employers of Roseville and South Placer County.

3.17.2 Impacts

None of the properties identified within the APE appear to be eligible for the National Register of Historic Places (NRHP) and none are historical resources for the purposes of CEQA; therefore, none of the four proposed alternatives would have permanent impacts on historical properties or resources.

3.18 Archaeological Resources

The California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA), proposes improvements to Interstate 80 in Sacramento and Placer counties. FHWA is participating in this project and must meet the consultation requirements of Section 106 of the National Historic Preservation Act. The proposed project, therefore, is a federal undertaking subject to 36 CFR Part 800, implementing regulations for Section 106.

A literature and records search was conducted at the North Central Information Center of the California Historical Resources Information System. The Native American Heritage Commission was requested to review the Sacred Lands Files for any areas of Native American concern within or adjacent to the project. Correspondence was also send to Native Americans who have been identified as having an interest in projects within this area. The Sacramento County Historical Society, Genealogical and Historical Council, Placer County Museum, and the Roseville Historical Society were also contacted.

A systematic pedestrian archaeological survey of the Area of Potential Effects (APE) for this project was conducted. No archaeological resources were discovered within the APE during studies for this project.

3.18.1 Affected Environment

The project is mostly in urbanized areas, with residences and businesses being the primary contemporary cultural features present. The eastern portion of the project starting at the SR 65 interchange runs through Secret Ravine and is somewhat developed on the northern side of the highway with residences while on the south side is an area of oak parkland and non-native grasses.

3.18.2 Impacts

There were no archaeological sites identified within the APE for this project; therefore, none of the four Alternatives will have permanent impacts on archaeological resources.

3.18.3 Mitigation Measures

As there were no archaeological sites identified for this project; none of the four Alternatives will require mitigation measures for archaeological resources.

3.19 Unavoidable Adverse Impacts

Noise

Permanent noise impacts rise incrementally over the existing noise-level by 2 decibels. New noise levels without mitigation will be 71 decibels with the various build alternatives within the Interstate 80 corridor itself. In several locations noise impacts will be mitigated with sound walls where its been determined feasible and reasonable (Chapter 3.4). Implementation of Alternative 3 would have less noise impacts than Alternatives 1 & 2.

Visual Quality

Incremental daytime glare may result from the additions of barriers and soundwalls built with galvanized steel. Nighttime lighting may produce some increased lighting for both residences and possibly wildlife. Mitigation measures will reduce some of this glare to a less than significant impact, but some glare will probably remain. Implementation of Alternative 3 would produce less daytime glare due to less construction of new infrastructure (also see chapter 3.19).

Biological Resources

Biological impacts that will remain with mitigations that include the loss of mature oak trees, loss of riparian habitat, and loss of wetlands. Mitigation will occur to replace these losses but does not cover the time for re-establishment of habitat lost at certain locations, and the damage done to plant and animal species residing in those habitats. Replacement trees take roughly 30 years to reach maturity. Alternative 3 has less tree removal than Alternatives 1 & 2 (also see chapters 3.6, 3.7, 3.8, 3.9).

Air Quality (Reiteration)

Before adopting the MTP and MTIP, Sacramento Area Council of Governments (SACOG) performed a quantitative analysis to determine if implementation of the set of projects included in these documents would result in violations of the ozone and PM_{10} air quality standard. Based on this analysis, SACOG has concluded that implementing the set of projects included in the MTP and MTIP would not result in a violation of the ozone standard and would result in reduction of PM_{10} emission. The proposed project is a component of the set of projects included in the MTP and MTIP. In addition, as described in Section 3.3.2 of this document, the project would not result in a violation of the CO air quality standard.

3.20 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act of 1966, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Miner's Ravine: Miner's Ravine is an undeveloped riparian corridor designated on the City of Roseville's Land Use Map as "Open Space/Flood Area".

The City of Roseville, in conjunction with Caltrans and the Federal Highway Administration (FHWA) is in the process of planning a bicycle facility along the Miner's Ravine corridor. This corridor and proposed bike trail passes under the Interstate 80 structure that crosses Miner's Ravine. This bikeway would be partially constructed on Caltrans' right of way. Caltrans has issued an encroachment permit to the City of Roseville allowing this construction. The proposed bikeway is a Class I, off-street, bikeway along the south side of Miner's Ravine Creek between Sculpture Park and Harding Boulevard.

Woodside Park: Woodside Park is a developed, publicly owned park, located in Rocklin's Woodside residential area. This three-acre park is located along Westwood Drive, north of and adjacent to I-80.

Recreation Areas in the City of Rocklin

No direct use of recreational facilities would occur as a result of the proposed project. The proposed project does not include the acquisition of any property within the City of Rocklin.

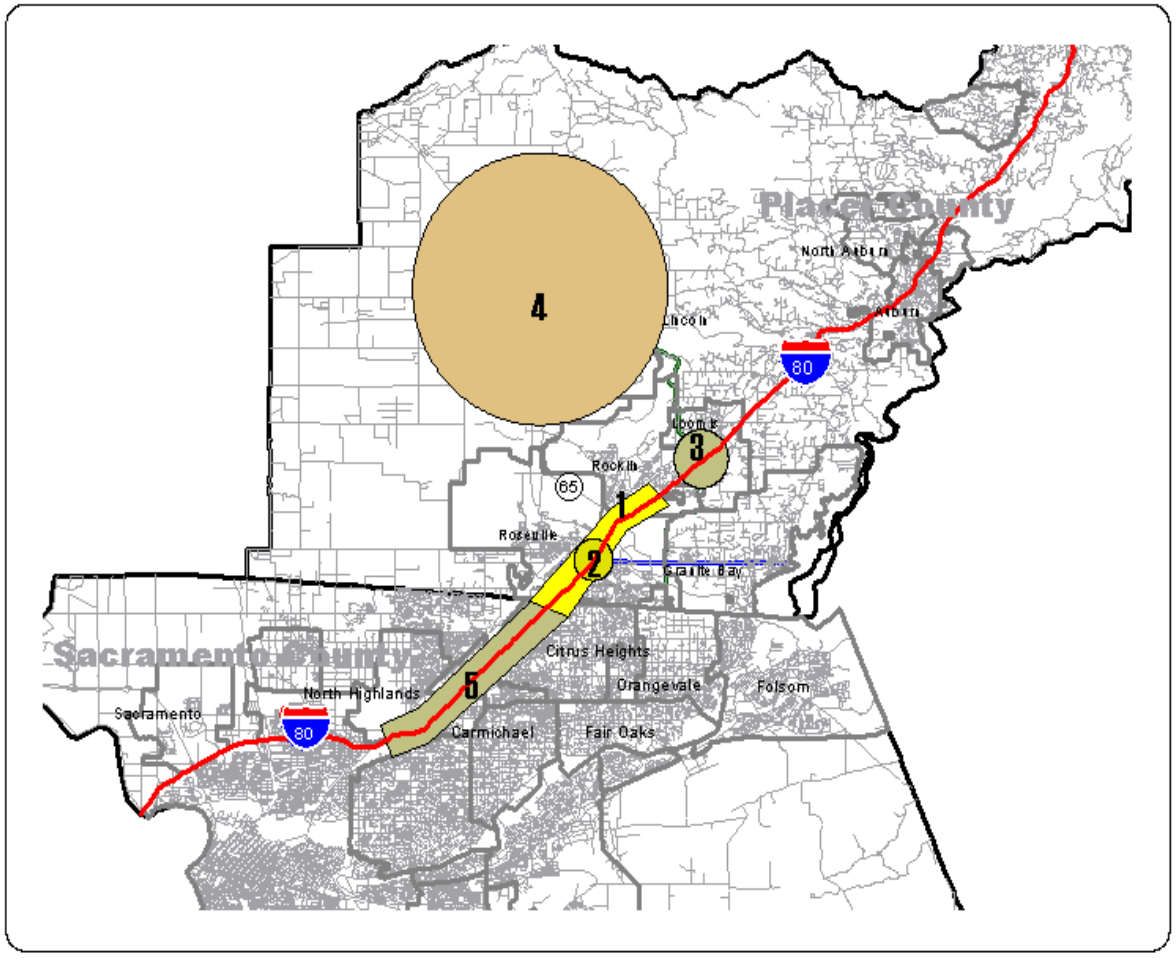
Construction of soundwalls in Rocklin would require a temporary construction easement for work in Woodside Park. At a meeting between Caltrans and representatives of the City of Rocklin on July 26, 2002, the Director of the City's Community Services and Facilities Department endorsed the idea of soundwalls adjacent to this park in order to reduce noise levels in the park. The City of Rocklin prepared a letter verifying that construction would be of short duration, would not change the ownership of the land, and would not result in adverse impacts to activities, features, or attributes of the park that are important to its recreational purpose.

Recreation Areas in the City of Roseville-Miners Ravine

In order to avoid unnecessary adverse impacts to the proposed Sculpture Park to Harding Boulevard Bikeway, Caltrans has coordinated development of the plans for the proposed project with the City of Roseville. On October 16, 2001, representatives of Caltrans met with City of Roseville staff to discuss options for integrating the designs of these two projects. As a result, City of Roseville staff has developed an alternative design for this facility that avoids direct impacts as a result of the proposed bridge widening. Caltrans has agreed to take responsibility for any damage done to the proposed bikeway (which is scheduled for construction prior to the start of construction on the proposed project) during project construction (Appendix C).

Project construction would require temporary closure of the proposed bikeway. Existing Class II bicycle lanes provide access to destinations that would be served by the proposed Miner's Ravine Bikeway. Specifically, bicycle lanes exist along Lead Hill Boulevard, Eureka Road, Sunrise Avenue, and Harding Boulevard. The proposed bikeway would connect Eureka Road to Harding Boulevard in the area between Lead Hill Boulevard and Sunrise Avenue.

The FHWA has determined that the foregoing use/conditions on encroachment upon the bikeway in Minder's Ravine in the City of Roseville and Woodside Park, City of Rocklin, does not constitute a Section 4(f) use.


Placer County
Sacramento County
4
3
1
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5
80
65
Lincoln
Rocklin
Roseville
Granite Bay
Citrus Heights
Orangevale
Folsom
North Highlands
Sacramento
Carmichael
Fair Oaks
6 0 6 12 Miles
Projects
1 I-80 Transportation Improvement
2 I-80/Douglas Blvd. Interchange
3 I-80/Sierra College Blvd. Interchange
4 Lincoln Bypass
5 I-80 HOV Lanes - Sac County
N

As a guidance standard the Council of Environmental Quality (CEQ) National Environmental Protection Act (NEPA) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions." (40 CFR section 1508.7) Environmental cumulative effects accumulate when the environment does not have enough time to recover to it's original condition before another outside action takes place to affect the environment.

Cumulative effects analysis necessarily involves uncertainties and assumptions, but useful information can be presented now to facilitate better decision making. This section will investigate the cumulative effects of this and other projects near the Interstate 80 corridor between Longview Drive and Sierra College Boulevard interchange.

Identifying the major cumulative effects involves defining the direct and indirect effects of the proposed action, which resources, ecosystems and human communities are affected and which effects on these resources are important from a cumulative effects perspective. The resources primarily affected by this project are biology, noise, air quality, and visual impacts. These resources are described in detail in the "affected Environment" chapter, so this chapter will focus just on the cumulative effects to these and other resources.

The geographic scope of cumulative impacts varies by technical area. The scope of this cumulative impact chapter is the existing condition and reasonably foreseeable transportation projects in the future. When considered with other reasonably foreseeable transportation projects, cumulative impacts to some resources could be more severe than impacts caused by the highway project alone.

Relevant Cumulative Projects

Four additional projects were looked at for the cumulative analysis along the Interstate 80 (I-80) corridor. Each of these additional projects are summarized below:

- I-80/Sacramento High Occupancy Vehicle Lanes (Sac HOV)
- State Route 65 - Lincoln Bypass
- Sierra College Blvd. Improvements
- Douglas Boulevard/Interstate 80 Interchange Improvement Project.

Project Summaries Along I-80 Corridor

State Route (SR) 65 – Lincoln Bypass, Placer County, Draft Environmental Document in progress

This proposed project is a westerly bypass along SR 65 around the City of Lincoln. The project consists of a mixed two- and four-lane facility extending about ten miles from Industrial Blvd in Lincoln to just north of Sheridan. The purpose of the project is to relieve congestion and improve safety on existing SR 65 in the vicinity of the City of Lincoln and provide for a regional traffic solution to accommodate projected traffic volumes for the year 2020. The existing SR 65 in the City of Lincoln is a "main street" highway and this leads to increased congestion and accidents, with available capacity being exceed by 2005. The California Transportation Commission programmed the Lincoln Bypass project being advertised for construction January 2005, with construction lasting between 2-4 years.

Sierra College Blvd Improvements, Environmental Document not complete

This future project for improvements to Sierra College Blvd. would consist of widening the roadway to four or six lanes from SR 193 to the Sacramento County line and reconstructing the interchange at I-80. The purpose of the project is to correct current traffic operation deficiencies on Sierra College Blvd. at the interchange, to provide needed capacity for future growth within the City of Rocklin and the South Placer County region, and to provide vertical and horizontal clearance for the future widening of I-80.

I-80/Sacramento High Occupancy Vehicle Lanes

This project currently under construction involves adding HOV lanes to both directions of I-80 in Sacramento County between Longview Drive and the Sacramento/Placer County line, widening all the Madison Avenue on and off-ramps and expand the Madison Avenue over-crossing from 6 to 8 lanes, installing meters and adding carpool lanes to all Madison Avenue on-ramp, and reconstructing the Regional Transit Light Rail Station at Longview Drive and the Watt Avenue off-ramp from eastbound I-80 to accommodate the addition of the new carpool lanes. The purpose of the project is to increase the carrying capacity and improve the safety of the highway. The expected completion date is Spring 2005.

Douglas Boulevard/I-80 Interchange Improvement Project, September 1999

This project would modify the Douglas/I-80 interchange by adding a right turn overpass from eastbound Douglas to southbound Sunrise, and would build an underpass from northbound Sunrise to eastbound I-80. These improvements will remove traffic from the intersection of Sunrise/Douglas, thereby reducing congestion at this busy intersection. The project also includes a two-lane on-ramp from westbound Douglas to westbound I-80. This project is expected to start construction in Spring 2003 and construction completed by Fall 2005.

Construction Activities

The Placer 80 project in conjunction with future development projects in the region, would result in construction related impacts (i.e. air quality, noise, water quality and energy impacts). However, the proposed Placer 80 project, as well as other future development projects would have to comply with mitigation requirements based on federal, state, and local policies. Adherence to these requirements would ensure that the proposed Placer 80 project, in concert with other current and future projects would not contribute to cumulative construction impacts.

Energy

Although the proposed project may add to a cumulative demand for energy, upon completion of this project there may be a reduction in energy demand. The congestion already exists, and any of the build alternatives of this project would ease traffic congestion, improve traffic flow, and improve safety along the interstate. This, in turn, would increase fuel efficiency and reduce energy demand. Alternative 2, with HOV lanes for carpools and commuter buses, would additionally increase fuel economy as well as increase people-moving capacity on the interstate.

Topography

Minimal topographical changes will be created by these projects. The Douglas Blvd/I-80 Interchange project will build a tunnel, and the Lincoln Bypass will be raised up three feet to put it above potential floodwaters.

Water Quality

During project construction, all these adjacent roadway projects may temporarily contribute to erosion and sedimentation problems in the Sacramento River. In addition, the construction of these five projects would result in increased impervious surface area that would in turn result in less infiltration of rainfall into the ground, causing total runoff volumes to increase. The increase in the highway runoff volume

has the potential to degrade water quality of the receiving surface waters by increasing peak storm water flow rates. Moreover, the increased storm water runoff volume would likely be contaminated with pollutants associated of paved surfaces.

As a solution to the above, the State Water Resource Control Board (SWRCB) has issued the Caltrans Statewide National Pollution Discharge Elimination System (NPDES) Storm Water Permit, which covers all Caltrans facilities in the State. The Statewide Storm Water Management Plan (SWMP) prepared pursuant to this permit outlines methodology for selection and implementation of Best Management Practices (BMPs) to mitigate adverse impacts to water quality. Selection of the appropriate BMPs will be guided by the SWMP in an effort to reduce impacts to water quality to the maximum extent practicable. These BMPs fall into several categories: Category IA (Maintenance BMPs), Category IB (Design Pollution Prevention BMPs), and Category III (Treatment BMPs), and are expected to mitigate any impacts to water quality.

Air Quality

Before adopting the MTP and MTIP, Sacramento Area Council of Governments (SACOG) performed a quantitative analysis to determine if implementation of the set of projects included in these documents would result in violations of the ozone and PM_{10} air quality standard. Based on this analysis, SACOG has concluded that implementing the set of projects included in the MTP and MTIP would not result in a violation of the ozone standard and would result in reduction of PM_{10} emission. The proposed project is a component of the set of projects included in the MTP and MTIP. In addition, as described in Section 3.3.2 of this document, the project would not result in a violation of the CO air quality standard. Therefore, the project is considered to have no cumulative impacts.

Noise

The noise environment within this corridor is dominated by traffic traversing Interstate 80. Sound levels adjacent major highways typically exceed 69 decibels. Sound walls are proposed in sensitive land use areas where a noise impact occurs and is deemed reasonable and feasible. Each of the alternatives will only result in a maximum noise increase of 2 decibels.

Although noise abatement will be implemented at certain locations, the projects will result in unabated noise impacts in some locations where abatement is not reasonable and/or feasible. Considering I-80 is the predominate noise source, the cumulative

noise effects of this project in conjunction with existing noise sources and near term future projects would be minimal.

Biology

Identifying the major cumulative effects involves defining the direct and indirect effects of the proposed action and other projects in the area, which resources, ecosystems and human communities are affected and which effects on these resources are important from a cumulative effects perspective.

As defined by the USFWS, interdependent and interrelated impacts refers to the effects of the action, both direct and indirect, together with the effects of other activities that are interrelated or interdependent on the proposed action. Examples such as road widening that is part of a larger planning effort that facilitates residential growth or development can be both interrelated and interdependent.

The geographic scope of cumulative impacts varies by technical area. The Cumulative Impacts Study Area (CISA) for biological resources of this project consists of the Valley-American hydrologic unit, Coon-American hydrologic area, Lower American hydrologic sub-area (CALWATER Version 2.2), which consists of 136,953 acres (Figure 1).

Cumulative Impacts on Natural Communities and Wildlife Habitats

Riparian Habitat Impacts

Riparian corridors such as Miner's Ravine and Linda Creek are recognized as valuable resources and designated in local planning documents as open space areas, generally protected from encroachment. Although impacts to these resources will likely be restricted to transportation and utility crossings, (bridged to help minimize impacts and allow wildlife movements), subtle impacts are still likely to occur and may be difficult to offset through conventional mitigation measures.

Native Oaks/Oak Woodlands

Oak woodlands are considered prime residential development areas due to their aesthetic quality. Development is often planned around the individual trees, and measures are generally taken to protect trees during construction. While individual oak trees may persist in developed settings, there is still a risk of tree loss due to over-watering, disease or compaction of soil within the root zone. Further, in a developed setting (such as the oaks along the project route), the woodland functions as a

fragmented habitat with wildlife and plant populations often isolated by roads, homes, ornamental landscaping, or other related uses.

The cumulative effects from this and other projects include further loss of nesting, cover, and feeding habitat. This habitat loss is somewhat negated due to its lower quality (juxtaposition to freeway and urban areas), tree sizes (most are pole to small tree size) and existing fragmentation.

Wildlife Habitat

Continued growth and development within the project area will cause the fragmentation of continuous large tracts of wildlife habitat into smaller, more isolated blocks. This habitat fragmentation will lead to reduced movements and impaired dispersal of young, and may ultimately result in small, isolated populations of some species. Over time, this may even lead to elimination of some species from the CISA.

Special Status Species

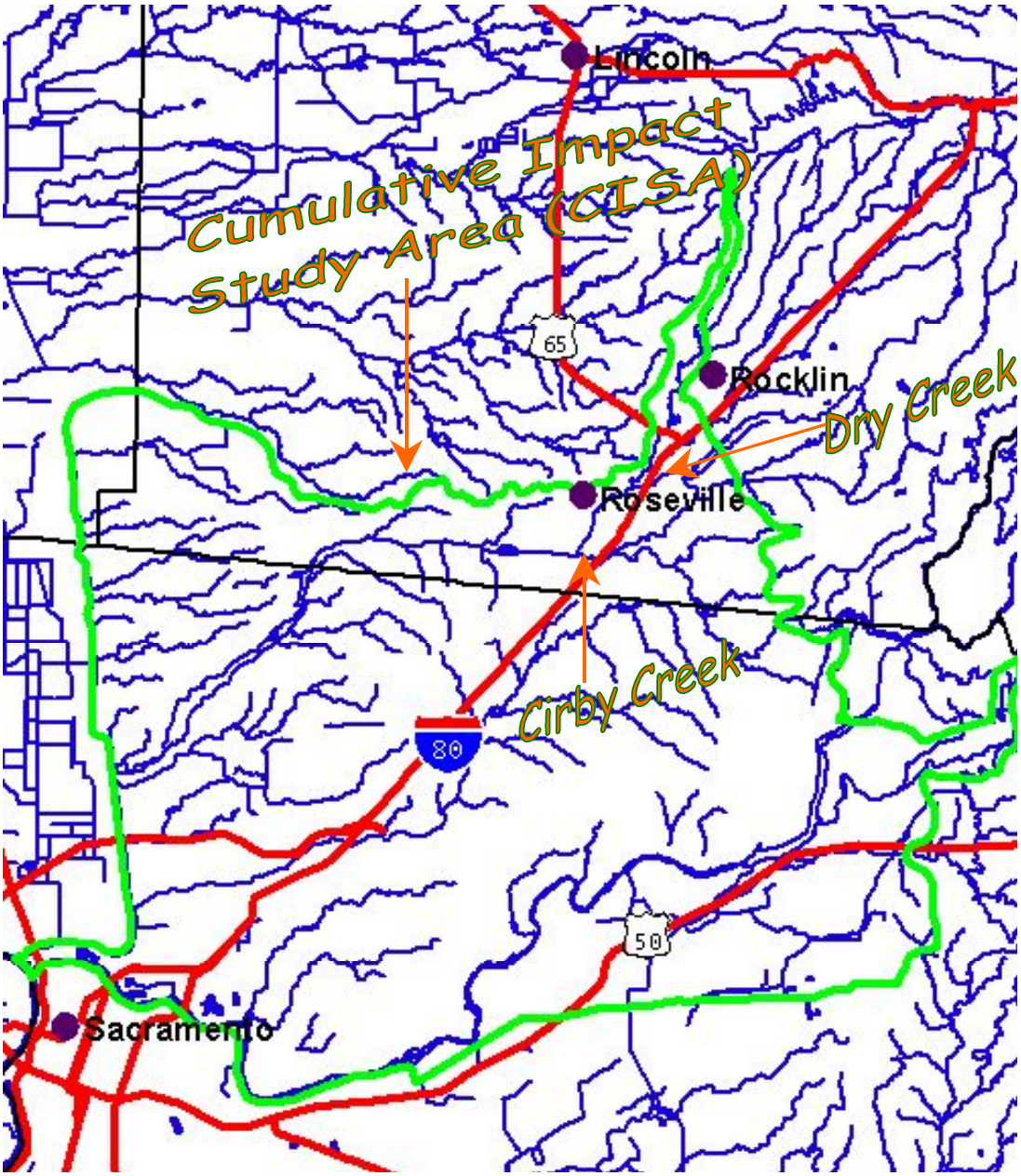
Most of the Special status plant species occurring in the CISA are associated with vernal pools; thus, the potential for impacts is directly related to the extent of vernal pool impacts. Similarly, potential impacts to special status vernal pool invertebrates are directly related to the extent of vernal pool impacts. There are no vernal pools associated with this project therefore no cumulative impacts are to be expected.

It is unlikely that the proposed project will contribute to impacts, which may be cumulatively assessed for Central Valley steelhead and Central Valley fall run Chinook salmon. Impacts to the riparian zone will be temporary and a vegetation restoration plan will be implemented to improve the habitat quality along reaches of both creeks impacted.

Wetlands

Wetland habitats within the CISA include vernal pools, fresh emergent wetlands and valley foothill riparian systems. The major development projects currently proposed, or under construction, in the CISA may have substantial wetland impacts in Placer and Sacramento Counties. It is expected that all wetland impacts would be compensated within the region resulting in a “no-net-loss” of wetland habitat. It is anticipated that habitat mitigation plans will preserve and create natural habitats within the region collectively and would facilitate habitat continuity and sustainability within the region.

Figure 5 - Cumulative Impacts Study Area (CISA).



SOCIO-ECONOMIC

Growth Inducement

The proposed projects support the existing pattern of development in this region. The projects proposed for this area would have the cumulative effect of improving accessibility between the region's employment center – the City of Sacramento – and the largely residential areas in southwestern Placer County, particularly during commuting periods. Based on existing development trends, the net result would not be the elimination of a barrier to development; Placer County was the fastest growing county in California in 2001, according to the California Department of Finance.* These projects are being proposed, in part, to compensate for the rapid growth that has already occurred and is currently occurring in this area through locally adopted General Plans and zoning.

Travel Times

Quantitative data are not available to indicate what the resulting travel time would be during peak hour between origins and destinations in Placer and Sacramento Counties. The cumulative impact of the proposed projects – particularly the capacity increasing projects on I-80 and the Lincoln Bypass on SR65 – would be to reduce travel times for all vehicles utilizing this freeway network. This is likely to be a benefit to residents of this region.

Alternative 2

Alternative 2 would have a significant positive impact on transit travel times between Roseville/Rocklin and Sacramento. The cumulative impact would be an HOV corridor from southwestern Placer County to Longview Drive in Sacramento County. Mass transit vehicles can use HOV lanes; the result could be a substantial improvement in travel times for buses.

Property Values

Given a decrease in travel times between Placer County and Sacramento, the proposed projects would also be likely to have a positive impact on property values throughout Placer County. Both residential and employment-generating uses would be more accessible during peak commuting hours. Improvements in accessibility

would be likely to translate into increased property values. This would be likely to be a benefit to residents of this region.

Transportation

The I-80 Project is being affected by other highway improvement projects in the region. The Douglas Blvd/I-80 Interchange and the Sierra College Blvd. Improvements are designed to improve traffic flow between I-80 and the local streets. The State Route 65 Lincoln Bypass is designed to increase safety and accommodate projected traffic volumes for 2020. The Sacramento HOV Lanes will improve traffic flow and provide incentives for individuals to carpool or use mass transportation (buses with connections to light rail).

The I-80 Project is in the middle of these four projects and can greatly influence their effectiveness. The interchange improvements and the less-congested traffic from the Lincoln Bypass will be more effective if I-80 has improved traffic circulation. Alternative 2 would connect this project to the Sacramento HOV lanes and would increase the effectiveness of carpooling and mass transportation campaigns in the region.

Visual Analysis

Placer 80 in conjunction with these other projects would only contribute incrementally to a cumulative impact on the area's visual quality. The area of all these projects is already congested; the projects are just adding more pavement and structures to ease the congestion. All these projects except the Lincoln Bypass are improving existing Interstate 80 and access roads to its corridor. The Lincoln Bypass is the only new alignment, but since it encompasses a concise area, it will not have much impact on the visual quality of the entire region.

Mitigation measures can be incorporated into each project that would serve to offset some of the visual impacts. Soundwall views will be mitigated with brick patterns and landscape plantings. Landscape plantings will also be used along the right of way and at interchanges and overhangs. As for tree removal, no clear-cutting will occur, and enforcement will be used in selective removal and trimming wherever possible. A temporary visual loss will occur until smaller replacement trees have time to mature to replace trees to be removed.

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[*] California Department of Finance, "Table E-2: County Population Estimates and Components of Change, 2000-01, with Historical Estimates, 1990-2000." January 2002.

On Interstate 80 gore paving will be used with different colors for the off-road areas, to improve safety and aesthetics. Eventually Interstate 80 will have a theme for the structures to enhance the viewshed for the highway drivers and passengers. The overall views will not change.

Chapter 5 California Environmental Quality Act Evaluation

5.1 Determining Significance Under CEQA

The CEQA Guidelines Section 15064 (b) broadly defines a significant effect on the environment as a substantial or potentially substantial adverse change in the physical environment. For the purpose of this document pertinent criteria from the CEQA Guidelines Appendix G were used to establish significance criteria for each of the alternatives. A significant impact would occur under the following circumstances:

- Implementation of the alternatives would induce substantial population growth in the area ;
- Implementation of the alternatives would change the community cohesion or the economy of the area;
- Implementation of the alternatives would effect the use of existing neighborhood or regional parks or other recreational facilities in a manner that would physically deteriorate the facility or reduce its ability to function as a recreational resource;
- Implementation of the alternatives would create the need for new or substantially altered public facilities, utilities or services;
- Implementation of the alternatives would create a disproportionate impact to an Environmental Justice Community.

5.2 CEQA Environmental Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The CEQA impact levels include potentially significant impact, less than significant impact with mitigation, less than significant impact, and no impact. Please refer to the following for detailed discussions regarding impacts:

CEQA:

- Guidance: Title 14, Chapter 3, California Code of Regulations, Sections 15000 et seq. (http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/)
- Statutes: Division 13, California Public Resource Code, Sections 21000-21178.1 (http://www.ceres.ca.gov/topic/env_law/ceqa/stat/)

CEQA requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A "no impact" reflects this determination. Any needed discussion is included in the section following the checklist.

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	X	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	X	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	X	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	X	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	X	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	X	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	X	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X
COMMUNITY RESOURCES - Would the project:				
a) Cause disruption of orderly planned development?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Be inconsistent with a Coastal Zone Management Plan?	☐	☐	☐	X
c) Affect life-styles, or neighborhood character or stability?	☐	☐	☐	X
d) Physically divide an established community?	☐	☐	☐	X
e) Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?				
f) Affect employment, industry, or commerce, or require the displacement of businesses or farms?	☐	☐	☐	X
g) Affect property values or the local tax base?	☐	☐	☐	X
h) Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines?	☐	☐	☐	X
i) Result in alterations to waterborne, rail, or air traffic?	☐	☐	☐	X
j) Support large commercial or residential development?	☐	☐	☐	X
k) Affect wild or scenic rivers or natural landmarks?	☐	☐	☐	X
l) Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours and temporary access, etc.)?	☐	☐	☐	X
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	X
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?X	☐	☐	☐	☒
LAND USE AND PLANNING - Would the project:				
a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
b) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒
NOISE - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
PUBLIC SERVICES -				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
RECREATION -				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X
UTILITIES AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X

	CEQA			
	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X

MANDATORY FINDINGS OF SIGNIFICANCE -

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

5.3 Discussion of CEQA Checklist Responses

Only eight of the checklist boxes above were determined and marked as having potential for impact. The five marked biological boxes have been determined to be "Less then significant with mitigation". As noted the existing Interstate and its inclusive enhancement project, cross a number of drainages, one of which (Miners Ravine) has the potential for migratory fish. Working in close cooperation with federal and state resource agencies various mitigations and construction windows have been developed and agreed to. Additionally, habitat restoration plans have been agreed to by all parties and standard surveys by Caltrans biological staff will occur during the construction phase. The one air quality mark is "Less then significant" with the project conforming with the Regional Air Quality Plan. The two noise checks are "Less then significant" with standard Caltrans construction mitigations and conformity to local noise ordinances.

Chapter 6 Summary of Public Involvement Process/Tribal Coordination

INTRODUCTION

As a standard the Council on Environmental Quality regulations (40 CFR Section 1501.7) requires "an early and open process for determining the scope of issues to be addressed…" In addition Section 15083 of the California Environmental Quality Act Guidelines authorizes and encourages an early or scoping process to identify range of actions, mitigation measures, alternatives and to help resolve concerns of agencies and individuals.

SUMMARY

A public involvement plan was initiated at the start of the project. An outreach plan of agencies and private organizations that should be contacted throughout the project development process (Exhibit A).

LOCAL OFFICAL BRIEFINGS

Presentations were made to the cities of Roseville, Rocklin, and Lincoln city councils and the Placer County Transportation Planning Agency (PCTPA) in the year 2000 with regards to the proposed project; a Project Development Support document was also circulated among these entities, that outlined the project and proposed level of environmental review. The above efforts resulted in a series of resolutions from the local governments indicating support of the project (Exhibit B).

A follow-up presentation was made to the PCTPA board on January 23, 2002, with the agency actively becoming a co-sponsor of the project.

OPEN HOUSE

A public information meeting was held for the general populous on February 28, 2002 at the Roseville Corporation Yard facility. Graphics and air photos were presented to inform the public visually of the nature of the project; various Caltrans staff were available to answer any questions (i.e. Engineers, Traffic Engineers, Right of Way Agents etc). Handouts were available (Exhibit C).

Paid advertisement announcements were published in the Sacramento Bee – Placer Neighborhood section, Feb. 17 & 24, 2002; Roseville Press Tribune Feb. 19 & 25 2002; Auburn Sentinal Feb. 22, 2002; Sacramento Bee – Citrus Heights section Feb.

21 2002; Auburn Journal Feb. 17, 2002; Colfax Record Feb. 20, 2002 (Exhibit D). Additionally mailed and faxed invitations were sent to agencies and entities from the Community Outreach Plan (see Appendix A). A drop in or mail in comment card was available at the Open House (Exhibit E). Of the 38 attendees 13 comment cards were completed (Exhibit F); the majority being positive and supportive of a capacity increasing project

INTERNET

In March 2002 a Caltrans District 3 website was developed to explain and visually display the proposed project (Exhibit G).

NATIVE AMERICAN CONTACTS

With the development of the Historic Property Survey Report in December 2001, the state Native American Heritage Commission and 15 native American tribes were sent notices (Exhibit H); only the United Auburn tribe responded with no concerns noted.

FHWA DETERMINDATION

On March 14, 2003, the Federal Highway Administration stated that a Categorical Exclusion was determined viable for purposes of federal review under the National Environmental Quality Act (NEPA) (Exhibit I). The Categorical Exclusion was issued on March 25, 2003.

Chapter 7 List of Preparers

This Initial Study (IS) was prepared by the North Region of the California Department of Transportation (Caltrans). The following Caltrans and consultant contract staff prepared this IS:

Japtej Gill, Senior Environmental Branch Chief, S4, Caltrans North Region, Sacramento Office, eleven years experience performing environmental studies for transportation projects.

Amy Kennedy, Associate Environmental Planner (Biologist) BA Geography / Natural Resources Planning CSU Humboldt; 5 years experience; Biological Assessment / Natural Environmental Study

Richard G. Burg, Associate Environmental Planner (Wildlife Biologist), BS Wildlife Management, Humboldt State University; 5 years experience; Natural Environmental Study

Erick Wulf, Associate Environmental Planner (Cultural Resources) BA / MA Anthropology CSU Sacramento; 12 years experience; Cultural report

Jean Rappold, Associate Environmental Planner (Cultural Resources) BA Environmental Studies UC Santa Barbara MA History CSU Sacramento; 12 years experience, historical architecture aspects of cultural reports.

Sharon Tang, Transportation Engineering Technician (Air / Noise); AA Business/ Engineering Sacramento City College; 15 years experience, Air Analysis Report.

Maria Alicia Beyer, Civil Engineer (Hazardous waste) BS Civil Engineer Chihuahua State – Mexico, MS Science U of Texas; 12 years experience; Hazardous waste – Hazardous Waste Initial Site Assessment and Site Investigation.

Aaron McKeon, MS Regional Planning Cornell U. 1998 2 years experience, Community Impact Analysis Report.

Hamid Hakim, BS Environmental Engineering 11 years experience, Water Quality Report.

Patrick A. McAchren, Associate Environmental Planner MS Environmental Studies / Public Administration CSU Sacramento; 31 years experience, Primary oversight, primary IS author

Beth Thompson, Environmental Planner; BA Environmental Studies CSU Sacramento; AA Legal Assisting American River College; 1.5 years experience, backup coordinator/author.

Karl Dreher, Project Manager BS Civil Engineer 14 years experience; Project Management / oversight.

J. Michael Auslam, Traffic Engineer BS Construction Engineering 21 years experience; Traffic Study Report.

JONES & STOKES CONTACTORS

David M Butler, PE BS Civil Engineering 21 years experience; Noise Report

Kevin Lee, MS Civil / Environmental engineering 3 years experience; Noise Report

Shannon Hatcher, BS Environmental Science 2 years experience; Noise Report

Chris Elliott, BS Landscape Architecture 6 years experience; Visual Report

Aerin Martin, MLA Landscape Architecture 1 year experience; Visual Report

Debbie Bloom, Graphic Artist 16 years experience; Visual Report

Chapter 8 References

SPECALIST REPORTS PREPARED BY CALTRANS

Air Quality Analysis Report

Biological Assessment Report / Natural Environmental Study

Community Impact Assessment

Hazardous Materials Initial Site Assessment

Historic Property Survey Report

Water Quality Report

Traffic Operational Study Report

Floodplain Report

SPECALIST REPORTS PEPARED BY JONES & STOKES

Visual Impact Analysis Report

Noise Study Report

Appendix A Coordination and Consultation

FEDERAL GOVERNMENT

Federal Highway Administration

U.S. Army Corps of Engineers

U.S. Fish & Wildlife Service

National Marine Fisheries Service

CALIFORNIA STATE GOVERNMENT

Native American Heritage Commission

Dept of Fish & Game

Highway Patrol

LOCAL GOVERNMENT

Cities of Lincoln, Rocklin, Roseville, Citrus Heights; Town of Loomis

Sacramento & Placer Counties

Sacramento Council of Governments; Placer County Transportation Planning Agency; Placer County Transit

Placer County Air Pollution District; Sacramento Metropolitan Air Quality Management District

OTHER

Friends of Placer County

Sierra Club

Sacramento Transportation Equity Network

California Trucking Association

Hewlett-Packard, Roseville

Building Industry Association, Sacramento

Sacramento Historical Society

Genealogical & Historical Council (Sacramento)

Placer County Museum

Roseville Historical Society

Appendix B Title VI Policy Statement

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July 26, 2000

TITLE VI
POLICY STATEMENT

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, sex and national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

JEFF MORALES
Director

Appendix C Section 4(f) Concurrence Letters

Appendix D Mitigation and Monitoring Commitments

According to CEQA Guidelines 15091(d) and 15097, " in order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects." This document will include information on the agency(s) responsible and timing for enacting and/or enforcing each mitigation measure identified in this IS. This Mitigation Monitoring Program will be developed after the completion of the public review period for this Draft IS, once a preferred alternative has been selected.